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The Economic Record

Vol. XXXIV December, 1958 No. 69

THE AUSTRALIAN ECONOMY, NOVEMBER 1958

1. *The Basic Problem*

As 1958 draws to a close the key factor in the Australian economic situation is the balance of payments. The balance of payments is in turn predominantly influenced by the price of wool. The budgetary, monetary and trade policies which have been adopted since the beginning of the current financial year have been based on the implicit hope or belief that Australia's external position would not continue to deteriorate during the year, and the growing evidence of an economic recovery in the United States has provided some justification for this optimism. Nevertheless, most commodity prices have continued to sag. When the Australian wool selling season opened at the end of August, average prices were some 10 per cent below the closing prices of the previous season and more than 20 per cent below the 1957-8 average prices. With wool production expected to be 3 per cent down on the previous year, and with carryover stocks considerably lower this year, the reduction in wool exports could easily exceed £100m. if prices do not improve.

Although the prospects for food exports are somewhat brighter, mainly because of the better season, the price outlook for these commodities remains uncertain. Any improvement in this direction is in any case likely to be offset by a reduction in base metal exports, following the quotas which the U.S. recently imposed on lead and zinc imports. A rough indication of trends in export prices and values may be obtained by comparing the latest price figures with 1957-8 prices and values (Table I).

In July an official Commonwealth Government survey estimated that, if export prices were to show no improvement over 1957-8 figures, export incomes would not exceed £750m. in the current year, even with favourable seasonal conditions; and assuming little or no change in imports, net invisibles and the net capital inflow, it was believed that our overseas reserves might be reduced by some £125m. by the end of the year.[1] The fall in wool prices and other developments since the official estimates were made suggest that the position is now at least £50m. worse. Table II indicates that this would imply a fall of perhaps £175m. in our reserves, which would drop from £525m. to £350m. in the year.

1. Professor Cochrane's August estimate of a fall in international reserves of £100m.-£125m., depending on whether the capital inflow is £125m. or £100m., was rather more optimistic than the official estimate. See "The Australian Economy, July 1958", *Economic Record*, August 1958, p. 153.

TABLE I

Trends in Export Values and Prices

	Value of Exports (£A million F.O.B.)		Price Indexes of Predominant Commodity (1956-7 = 100)	
	1956-7	1957-8	1957-8	Sept. 1958
Wool and Sheepskins ..	504	394	81	61*
Wheat and Flour	82	43	109	111*
Other Grains	22	16	—	—
Meats	51	55	90*	93*
Butter	26	16	87	76
Other Dairy Products ..	19	15	—	—
Fruits	25	35	107*	114*
Sugar	29	35	103	95*
Base Metals	58	42	73	68
Iron and Steel	27	23	—	—
Petroleum, Oils	11	17	—	—
Vehicles and Parts ..	8	8	—	—
Other	117	115	—	—
	979	814		

* Subject to Revision

Sources: *Treasury Information Bulletin, No. 11* (July 1958)
Commonwealth Statistician's *Monthly Index of Australian Export Prices*

The prospect of a deficit on current account of £300 m. is not one to be viewed lightly, especially as it is by no means certain that we shall be able to maintain the high rate of capital inflow that has been achieved in recent years. Indeed, continued weakness in our balance of payments on current account could easily lead to a reversal of the capital flow. Even if American recovery should produce the long-awaited lift in commodity prices, the prospects for the immediate future are rather gloomy.

Despite a vigorous trade promotion drive, the longer-term outlook for exports is not much more encouraging, at least insofar as primary products are concerned. The probability of continued marketing dif-

TABLE II

Australian Balance of Payments Prospects

(£A million)

	Actual 1956-7	Actual 1957-8	Estimate 1958-9
Exports f.o.b.	978	814	700
Imports f.o.b.	—718	—791	—800
Trade Balance	260	23	—100
Net Invisibles	—167	—201	—200
Balance on Current Account	93	—178	—300
Capital Inflow	119	136	125
Change in International Reserves	212	—42	—175

ficulties for Australia's exports is underlined by such events as the failure of the Commonwealth Trade and Economic Conference, held recently at Montreal, to agree on proposals to establish a commodity price-stabilization scheme; the British relaxation of restrictions on dollar imports, with its implied threat of greater American competition in the U.K. market; the recent reduction of minimum prices under the U.K. meat agreement; the greater competition which Australian exporters are facing in their traditional markets from European and American producers, some of whom are supported by government export subsidies, price support schemes and dumping devices; the effects on some of our weaker export industries of the European Economic Community and the proposed Free Trade Area; and the intensification of import restrictions in New Zealand following the overseas trade difficulties experienced by that country.

A deterioration in the balance of payments, following a fall in export prices, is not a new experience for Australia. What is perhaps surprising in the current situation is the relative ease with which the internal economy has taken the shock. Table III indicates that despite the fall in farm incomes, and a rise in unemployment figures in the early part of the year, the level of internal activity in 1957-8 did not react significantly to the unfavourable external situation.

It is therefore worth while reviewing the action that has been taken to prevent the adverse balance of payments from resulting in unnecessary disturbance to the Australian economy, and to consider whether the policies that have already been adopted are likely to remain effective during the current year.

In addition to the problem of maintaining internal stability, however, the question arises as to what action is necessary to arrest the adverse trend in the balance of payments? Moreover, since a high rate of development continues to be one of the over-riding objectives of Australian policy, it is necessary to ask whether the restoration of balance of payments equilibrium will check the impetus to internal expansion? Under present circumstances this may be regarded as the basic problem of Australian economic policy. Obviously its solution depends on finding a means of financing economic development which will avoid the continued use of our international reserves.

2. *Recent Trends and Policies*

In reviewing the Government's current economic policy it is necessary to turn to the Commonwealth Treasurer's Budget Speech for 1958-9 and the annual reports of the Commonwealth Bank and the Tariff Board. These documents show that the Government's main concern so far has been to cushion the effects of the external deficit on the domestic economy, in the hope that the external position will soon improve. The effect of the 1957-8 Budget was only mildly expansionary (see Table V). Although it provided for substantial tax concessions and increased expenditure on social services and payments to the States, it

TABLE III

Indicators of Internal Activity—Australia

—	Farmers' Incomes	Other Personal Incomes	Factory Production	Retail Sales	New Houses and Flats Commenced	Wholesale Prices	Retail Prices	Nominal Wage Rates	Civilian Employment	Persons on Unemployment Benefit
	1	2	3	4	5	6	7	8	9	10
	(£ million)	(£ million)	(1955–6=100)	(Quarterly average £m)	(Quarterly average)	(Basic Materials and Foodstuffs, 1955–6=100)	(Interim Index, excl. potatoes and onions, 1955–6=100)	(Adult Males six States, 1955–6=100)	(Monthly average in thousands, or end of month)	(Monthly average, or end of month)
1955–6 ..	434	3,782	100	542	19,309	100	100	100‡	2,835	4,014
1956–7 ..	527	3,999	104	564	18,155	103	106	105‡	2,860	12,666
1957–8 ..	390	4,159*	112	594	17,363	101	108	107	2,876	23,900
1958—April ..	—	—	117			100			2,889	26,811
May ..	—	—	111	588	19,493	101	109	108	2,889	27,282
June ..	—	—	106			101			2,887	29,418
July ..	—	—	108			101			2,884	29,915
August ..	—	—	113	—	21,235*	101*	109	—	2,880	28,278
September	—	—	—			101*			—	26,002

* Preliminary ‡ Partly estimated

Sources: Commonwealth Statistician, *National Income and Expenditure 1957-58* (Columns 1-2)
" " *Monthly Review of Business Statistics* (Columns 4-8)
" " *Monthly Bulletin of Employment Statistics* (Columns 9-10)
A.N.Z. Bank *Quarterly Survey* (Column 3)

resulted in a larger current surplus than had been achieved in 1956-7, and despite increased works expenditure and debt redemption it was still possible to reduce Treasury Bills by £10m. during the year. Tax concessions doubtless contributed to the rise in private investment and consumption expenditure, but the availability of hire-purchase finance was probably a more important factor in stimulating consumption.[2]

The main impetus to expansion in 1957-8 probably came from central banking action. As a result of a Central Bank directive in May 1957, bank advances had stopped falling in the early part of 1957-8. In December 1957 the Central Bank indicated that, in view of the bad season and the uncertain economic situation, an increase in bank advances was now appropriate (except for hire-purchase businesses). To facilitate credit expansion and prevent the fall in overseas funds from unduly affecting bank liquidity, substantial releases from Special Account were made during 1958. The effect of these policies is shown in Table IV. The substantial increase in bank advances undoubtedly helped to sustain the level of domestic spending in 1957-8 in the face of falling export incomes. The trading banks are now not likely to have serious liquidity problems until the last quarter of the financial year, when the end of the export season coincides with heavy taxation payments. Meanwhile the Central Bank has indicated that, although it is worried about the balance of payments situation, its main concern at present is with employment, and that it will "assist in keeping expenditure high enough to maintain employment at a satisfactory level".[3]

The Government's major policy declaration for the year, the Treasurer's Budget Speech, also emphasized the need for increased expenditure in order that the work force may be kept fully employed, and to ensure that the increased production which is expected in 1958-9 is fully absorbed. Table V indicates the extent of the expansionary action contemplated in the Budget. In the discussion which followed the Budget Speech there was, surprisingly, almost no recognition of a very important technical change which was made in the presentation of this year's estimates. In previous years, apart from an overall review, in terms of cash, of the previous year's results, attention was always concentrated on the Consolidated Revenue Fund. Although some reference was made to proposed Loan Fund and Trust Fund transactions, there was no consolidated statement of the budgetary prospects. Because of movements in Trust Fund balances it was therefore impossible to make an accurate assessment of the probable overall effect on the economy of the Government's financial activities. This serious deficiency has been repaired in this year's Budget, which for the first time presents an overall summary of budget prospects, in terms of a cash statement which comprehends the Consolidated Revenue Fund, the Loan Fund, and the National Debt Sinking Fund and other Trust Funds. One reason for this changed procedure, as Professor

2. *Cf.* D. Cochrane, *ibid.*, p. 151.
3. Commonwealth Bank of Australia, *Report for the Year Ended 30th June, 1958*, p. 4.

TABLE IV

Australian Banking Statistics

Month	Total Deposits	Liquid Assets and Government Securities		Special Accounts		Advances
		Total	Percentage of Deposits	Total	Percentage of Deposits	
	£m.	£m.	%	£m.	%	£m.
1957—March	1,603·7	391·6	24·4	319·9	20·0	830·7
June	1,556·0	294·3	18·9	339·6	21·8	868·8
September	1,538·1	300·9	19·6	339·6	22·1	860·7
December	1,646·7	360·5	21·9	339·6	20·6	870·9
1958—March	1,658·5	412·8	24·9	324·5	19·6	862·7
June	1,558·3	288·7	18·5	282·1	18·1	945·6
September	1,545·6	304·4	19·7	264·6	17·2	948·8

Sources: *Treasury Information Bulletin, No. 11* (July 1958)
Commonwealth Statistician's *Monthly Bulletin of Australian Banking Statistics*

Cochrane has suggested,[4] was probably the Government's concern with the large volume of debt which is maturing during the current financial year. It is not possible to agree with Professor Cochrane, however, that this changed form of presentation has led to "confusion over the true budgetary position". The true budgetary position can only be ascertained by reference to all the Government's financial activities. This involves, first, separating the Government's current transactions from its capital transactions; secondly, distinguishing capital transactions involving goods and services from capital transactions involving changes in indebtedness; and thirdly, differentiating between changes in long-term indebtedness (inscribed stock and bonds) and changes in short-term indebtedness (mainly treasury bills). From the information given in this year's Budget Speech it is possible to make these distinctions for the first time, although the form of presentation of the relevant information could be improved by eliminating book-keeping transfers between Funds. In Table V the figures are rearranged and presented in a consolidated statement of the expected financial results for 1958-9 (actual results in 1956-7 and 1957-8 are given for comparative purposes). The classification into current and capital transactions is still not perfect, because transfers between Trust Funds and other Funds are not completely eliminated; but the Table contains all the essential information relating to the Government's expected financial activities.

It will be seen from Table V that there has been a considerable change of emphasis in budgetary policy in 1958-9. Current revenue is expected to be lower than in 1957-8, but provision is made in the Budget both for higher current expenditure and for increased spending on Commonwealth and State works. The large Treasury Bill issue required to cover the deficit in the Capital Account provides an indication of the stimulus which the economy is likely to receive from the

4. D. Cochrane, "The Australian Economy, July, 1958", *op. cit.*, p. 157.

TABLE V

Consolidated Statement of Commonwealth Cash Receipts and Outlay—All Funds

(£ million)

Receipts	Actual 1956-7	Actual 1957-8	Estimated 1958-9	Outlay	Actual 1956-7	Actual 1957-8	Estimated 1958-9
CURRENT ACCOUNT				CURRENT ACCOUNT			
Taxation Revenue	£1,095	£1,157	£1,143	Current Expenditure—			
Other Revenue	139	154	159	War and Defence	£314	£313	£320
				National Welfare Fund ..	224	247	274
				Payments to States	244	271	287
				Other Current Expenditure	233	252	268
				Surplus on Current Account ..	219	228	153
	£1,234	£1,311	£1,302		£1,234	£1,311	£1,302
CAPITAL ACCOUNT				CAPITAL ACCOUNT			
Surplus on Current Account ..	£219	£228	£153	Commonwealth Capital Works	£108	£124	£129
National Debt Sinking Fund Income	} 37	50	45	State Works, Housing, War Service Land Settlement ..	200	209	217
Increase in other Trust Fund Balances		13	3	Redemption of Maturing Long-Term Debt	30	63	80
Borrowing from Public	99	115	115	Reduction in Treasury Bills ..	15	10	—
Treasury Bill Borrowing	—	—	110	Increase in Cash Balances ..	2	—	—
	£355	£406	£426		£355	£406	£426

Source: Derived from Commonwealth Treasurer's *Budget Speeches, 1957-8 and 1958-9*

Budget. The expansionary effect of the Government's expenditure for purposes of debt redemption is difficult to estimate, but its influence on the money supply and the level of spending may be broadly regarded as similar to the effect of open-market purchases of securities by the Central Bank. Doubts have been expressed as to whether the Budget went far enough in the direction of supporting the level of internal activity,[5] and these doubts are likely to be reinforced as a result of the further fall in export income that now seems likely. But although it will be necessary to keep a close watch on employment and price trends, the internal economy still seems to be in a reasonable state of balance.

It must be emphasized, however, that all the Government has done is to shelter the domestic economy from the effects of the adverse balance of payments. No steps have yet been taken to restore equilibrium in the external position, but if export prices do not soon show a marked recovery corrective action cannot be long delayed. In recent years import restrictions have been the principal weapon used to protect Australia's international reserves, and we might expect them to be used once again as a first line of defence. However, in their Annual Reports both the Commonwealth Bank and the Tariff Board have referred to the dangers involved in the continued use of import restrictions, the Bank emphasizing their distorting effect on the allocation of resources and the Tariff Board expressing its concern at the possibility that our export receipts may soon be insufficient to finance Australian industry's essential requirements of imported raw materials and capital equipment. In view of these and other frequently expressed doubts[6] about the desirability of import restrictions, the time has surely come to reconsider the possibility of adjusting the exchange rate as a substitute for import restrictions.

3. *Restoring External Stability*

There are probably three major reasons why exchange devaluation has been ruled out as a means of restoring balance of payments equilibrium since general import restrictions were first imposed in 1952. These are: *first*, for income distribution reasons it was not desired to augment the high level of incomes which most primary producers, and especially woolgrowers, continued to enjoy even after the collapse of the Korean boom; *second*, during most of the period in question Australia has been subject to strong inflationary pressures which the higher incomes and costs resulting from devaluation would have intensified, making the Government's task of maintaining internal stability extremely difficult indeed; and *third*, it has long been believed that Australian exporters do not respond to price increases by increasing their output, so that the increased prices, in terms of Australian currency, received as a result of devaluation would not result in a higher volume

5. See D. Cochrane, *ibid.*, p. 157.
6. See, for example, W. M. Corden, "Import Restrictions and Tariffs", published elsewhere in this issue.

of exports and increased earnings of foreign currency. In addition to this assumed inelasticity in the supply of exports, many people have believed that the Australian demand for imports is also inelastic, so that an increase in the Australian price of imported goods would not greatly reduce the volume of imports.

Whatever the merits of these arguments during the past few years, it is doubtful whether they can be taken seriously today. Farm incomes dropped by one-third in 1957-8 (from £535m. to £359m.), and the further substantial fall which may be expected this year will reduce them to well below the pre-Korean level (£321m. in 1948-9), despite the fact that national income has increased to roughly two-and-a-half times its 1948-9 value (from £1,961m. in 1948-9 to £4,710m. in 1957-8). Under these circumstances, equity arguments can hardly be used to oppose an increase in farm incomes such as would result from depreciation of the Australian pound.

Moreover, we have seen that despite the expansionary Budget policy there is, if anything, a deflationary tendency in the economy at present, arising out of the continued fall in export incomes. Devaluation would help to correct this position by increasing demand for domestic production, and its effects on costs would not differ greatly from the effects of other measures that might be taken to reduce imports. Under these circumstances it should not prove difficult for the Government to counteract such inflationary pressures as would be set in motion if the Australian pound were depreciated. The main difficulty arising out of devaluation would probably be that of maintaining a high rate of development, and this problem will be considered in the next section.

The suggestion that the supply of Australia's exports is inelastic with respect to price changes may have had some validity so long as exports consisted almost wholly of primary products, but even under these circumstances the inelasticity has probably been exaggerated. The apparent lack of response by the farmer to price changes is probably due, not to failure to react on his part, but to the relatively long period that needs to elapse before increased investment and changes in production policy can bear fruit.[7] It may be that increased output of Australian wool resulting from devaluation might adversely influence the price of wool in the world market, but the effect of this on the aggregate earnings of foreign currency is problematical.

In any case, however, as a result of the increased absorption of rural output by the home market on the one hand and the build-up that has occurred in manufacturing capacity on the other, it is no longer true that Australia's export potential is based wholly on primary commodities. One would normally expect a country's exports to be derived from her most efficient industries, whether primary or secondary. In fact certain of Australia's primary-producing export industries, e.g. dairying and dried fruits, are among our most inefficient, judged by costs in relation to world prices, and are only sup-

7. *Cf.* W. M. Corden, *ibid.*

ported by home-price schemes, subsidies and marketing agreements designed to protect them from the forces of world competition. Many of Australia's manufacturing industries, on the other hand, are extremely efficient by world standards. These industries have been steadily increasing their share of Australia's exports until exports of manufactured and semi-manufactured goods (excluding processed rural products but including such items as iron and steel products, petroleum products, vehicles and machinery, electrical equipment, textiles and chemicals) now exceed £100m. and this year will probably account for something approaching 15 per cent of total exports. During the period of Australia's post-war development these industries, many of which have been established by overseas companies, have been increasing their capacity. Their average costs depend to an important extent on the degree to which their capacity is utilized, and in many cases, for example because of indivisibilities of plant installations, their capacity has outrun Australian demand. This has happened, according to the Department of Trade's Survey of Manufacturing Activity,[8] in the case of industries producing plant, equipment and machinery; durable and non-durable consumer goods; and building materials. It would obviously be an advantage to these industries if they could utilize their idle capacity by increasing production for export. In many cases they could do this by quoting export prices below the prices prevailing in the home market; given idle capacity, it would pay them to act in this way so long as the export prices they receive cover their variable costs of production and make some contribution to fixed overheads and profits. Action of this kind is described in the language of international trade as dumping, and unfortunately the freedom of Australian manufacturers to behave in this way is restricted by anti-dumping regulations which operate in most of our export markets. The same results could be achieved, however, by devaluation. Given the work that has already been done by manufacturers in getting a foothold in overseas markets, the fillip to export earnings resulting from, say, a 20 per cent devaluation could well be spectacular. Moreover, the existence of idle capacity in Australian manufacturing industry is not only an effective answer to the suggestion that the price elasticity of supply of Australian exports is low; the existence of alternative sources of supply in the home economy makes import replacement a possibility and takes some of the force out of the argument that the Australian demand for imports is also inelastic (although there are certain essential raw materials that so far cannot be produced in Australia, such as petroleum, the demand for which will continue to be highly inelastic).

If exports remain at only £700m. a year, it will not be sufficient to attempt to restore the balance of payments by negative action, such as import restrictions or increased tariffs, designed to operate only on the side of imports. It has been officially suggested that an export income of at least £900m. is necessary if Australian expansion is to keep mov-

8. Commonwealth of Australia, *Survey of Manufacturing Activity in Australia (April 1958)*, p. iii.

ing at a reasonable pace.[9] This implies positive action to stimulate manufacturing exports, and no other policy could produce such an immediate effect as devaluation of the Australian pound. Such a devaluation should be of sufficient magnitude to enable, as a corollary, the elimination of quantitative restrictions on imports. Even if export prices should recover, say to their 1957-8 level, a case for devaluation would remain so long as import restrictions continue to be imposed to protect the balance of payments, although under these circumstances some of the arguments against devaluation that were discussed at the beginning of this section would need to be given greater weight.

4. *Financing Economic Development*

If export prices do not recover and it is necessary, in order to protect our international reserves, to take corrective action to close the balance of payments gap, then irrespective of the means adopted to achieve this purpose there are likely to be difficulties in maintaining the existing high rate of economic development. This is because the elimination of the balance of payments deficit normally implies a reduction in the resources available to the domestic economy. In real terms the volume of imports will be reduced and/or there will be a diversion of home-produced goods into export markets.

This reduction in the flow of supplies available to the home economy could be partly avoided if the adverse trend in the terms of trade was to be reversed, or the capital inflow speeded up, or internal productivity increased. Devaluation might be expected to help in all these directions. The effect of devaluation on the terms of trade is not likely to be very significant, although it might cause some reduction in import prices (expressed in terms of foreign currencies) without affecting the overseas prices of many of our existing exports. Devaluation would reduce the overseas cost of direct investment in Australia, although the subsequent dividend returns would also be lowered in terms of foreign currencies. However, the main effects of devaluation on capital inflow would probably be the added inducement to direct investment that would result from the improved competitive position of Australian industry, and the added strength that would be given to the Australian pound by the weakening of speculative pressures to send capital abroad. The greater utilization of plant capacity, which it has been suggested above is likely to follow devaluation, would be the principal factor tending to raise internal productivity.

Despite the possibility of mitigating circumstances such as these, action to close the balance of payments gap will inevitably result in a loss of resources to the Australian economy. If the resources devoted to economic development are to be maintained in absolute terms (or even maintained at the same proportion of real national income), this implies a reduction in real consumption. Expressed in another way, the elimination of the balance of payments deficit means that it will no longer be possible to finance Australian investment by running down

9. Commonwealth of Australia, *The Australian Economy, 1958* p. 20.

international reserves. This problem would not arise if there were unemployment in the economy after the restoration of balance of payments equilibrium. Increased public investment expenditures, financed say by Treasury Bill issues, would then be an effective means of raising the level of internal activity to full employment. If, however, the economy were already running at full stretch and it is desired to avoid inflation, then action must be taken to step up the flow of savings if the existing level of investment is to be maintained. Under these circumstances the maintenance of a high rate of growth in the Australian economy may be said to depend on the achievement of increased domestic saving. Unfortunately, the task of increasing saving in Australia has been rendered extremely difficult by falling farm incomes, the traditional source of a large proportion of our personal saving.

Whether saving is adequate in relation to investment requirements depends partly on the aggregate volume of funds flowing into the capital market, and partly on the extent to which those funds are efficiently used. While the volume of savings will depend predominantly on the level of income, it is possible to influence the rate of saving at any level of income by providing special incentives to save or by imposing penalties on spending.

Control over hire-purchase activity would provide an obvious method of restricting consumption expenditure in Australia, but any action in this direction is difficult to implement for constitutional reasons. One approach to the problem, which has already been applied on a moderate scale in New South Wales and Victoria, would be to impose an *ad valorem* tax on hire-purchase transactions. Because the demand for hire-purchase finance seems highly inelastic this may not result in any immediate limitation of spending, especially when hire-purchase companies are in a position to make additional finance available to cover the tax. Successful control over hire-purchase transactions almost certainly implies either direct controls over terms of hiring or controls over capital issues.

The main deterrent that can be imposed on private spending is taxation, and to the extent that taxes are not used to finance government spending they may be said to make a direct contribution to the economy's savings. It is clear from Table V that in recent years an overwhelming proportion of public works expenditure, both by the Commonwealth and States, has been financed by taxation. Because they have had access to these "compulsory savings", governments have not found it necessary to make heavy demands on the new savings flowing into the capital market. As was pointed out in the Commonwealth Government's last economic survey,[10] however, a high and progressive income tax structure tends to discourage private saving. In the existing Australian situation there would seem to be strong grounds for experimenting, as India has done, with forms of taxation that will avoid the deterrent effects which highly progressive income taxes are known to have on saving. In particular, consideration might be given to the

10. *The Australian Economy, 1958.*

gradual substitution, in the middle and higher income ranges at least, of a progressive tax on expenditure for the existing income tax.

Several recent institutional developments in the Australian capital market might encourage the growth of savings. These include the establishment of finance companies in Melbourne and Sydney which will operate as discount houses and help to mobilize short-term funds that would otherwise not be available to the capital market; the extension of trading bank activities into the savings bank and unit trust field; the growing importance of the unit trust movement and other attempts by sharebrokers to interest small savers in industrial securities; and the emergence of new forms of fixed-interest securities, such as unsecured debentures and notes and the new Commonwealth special bonds, which pay relatively high rates of interest and are designed to attract income-conscious investors. The restoration of some measure of price stability will doubtless have its effect on personal savings. It will also mean that business savings may be used effectively to finance expansion, instead of being largely absorbed in providing for the replacement of stocks and fixed assets. But although it might be possible to increase private saving by these means, it seems that Australia must continue to rely on government saving, i.e. on taxation, to finance a substantial proportion of her development.

The effective use of savings depends partly on their allocation between the public and private sectors of the economy, and partly on the efficiency with which funds are distributed within each sector. The initial allocation between government and private sectors is inevitably a political decision. In recent years Australian governments have made relatively little demand on the capital market. If the conversion of maturing loans be ignored, new Commonwealth issues have been taken up mainly by banks and other institutional investors, and governments have relied on Commonwealth taxation as a means of financing by far the greater proportion of their public works. Whether this has resulted in a satisfactory allocation of funds between the public and private sectors is a social or political question rather than an economic one, but there is at least a danger in the present system that essential public works may lose their place in the queue to relatively inessential private investment projects.

Within the government sector the allocation of funds is normally determined by the Loan Council, but in practice during recent years the Commonwealth has decided the amount which is to be made available to the States. Commonwealth-State financial relationships continue to provide one of the major and apparently insoluble problems of the Australian economy; it is significant that the Parliamentary Constitution Review Committee was unable to make specific recommendations on this issue. There seems little doubt that State expenditures must meet more stringent tests before they are approved than is the case with the Commonwealth. This is particularly unfortunate in circumstances where the States remain primarily responsible for expenditure on development and social services, and largely explains

Australia's neglect in making adequate provision for housing and essential services, transport, education and hospitals. It is difficult to see how this situation can be remedied, largely because the States have shown no real desire to take effective action to improve their position. Even if uniform income taxation is retained it would be possible for the States to introduce some flexibility into their financial systems by expanding existing taxes or exploiting new fields, e.g. capital taxes or general expenditure taxes of the kind mooted above. It seems that the weakness in State finances is due not so much to lack of revenue sources as to their general unwillingness to impose taxes that might bring them out of line with other States and react unfavourably on their industrial development. It is easier for the States to try to extract additional funds from the Commonwealth than to take action which might adversely affect their development prospects. This probably explains the recent decisions by the Queensland and Victorian Governments to apply for Section 96 grants; it also implies that there is not much point in civil servants and economists searching for additional tax fields for the States to exploit.

Another possible source of inefficiency in the use of funds by the public sector is the competition among States for new industries, particularly by overseas companies. This is not likely to result in industries being established on the best possible terms from the point of view of the Australian economy. Other writers have mentioned the adverse balance of payments effects that certain forms of overseas investment are likely to have.[11] Less obvious, perhaps, is the distortion which the inducements held out to a new industry might introduce into the State's public works programme. It has been officially stated that it will cost one State Government £50m. to provide transport, housing, and essential services for new industrial enterprises which have themselves recently announced capital investment programmes of £50m. in the State in question. Obviously government expenditure of this order will affect existing works programmes. While from the individual State's viewpoint such expenditure may be thoroughly justified, there is at least a danger that the cost of undertaking it (which in the last resort is the cost of doing without something else) may not be taken into account fully by a government anxious to establish new industries. This danger is likely to be intensified when several States are competing for a project.

Turning now to the private sector, the major factors distorting the allocation of funds are probably, first, the preferred position which hire-purchase companies have secured in the capital market as a result of the attractive terms they are able to offer; and second, the relative difficulty of securing short-term bank finance as compared with new capital issues and hire-purchase finance.

Despite the growing emphasis on fixed-interest securities, there does not appear to be any significant shortage of risk capital. The

11. See, for example, E. T. Penrose, "Foreign Investment and the Growth of the Firm", *Economic Journal*, June 1956.

recent increase in funds flowing into debentures, notes and deposits has had some effect on ordinary share issues, but the brunt of the onslaught has been borne by Government securities. The greater reliance on fixed interest debt in recent years may go too far and lead to unbalanced capital structures. Recent trends, however, are probably a reflection of the low gearing ratios which existed at the end of the post-war boom, the achievement of stability in the economy following a period of inflation and tax laws which favour long-term borrowing *vis-a-vis* capital raising. Nevertheless, to prevent over-emphasis on fixed-interest debt there would seem to be a strong case for adopting the U.K. practice of not allowing, as a deduction for income tax purposes, interest paid on debentures and other securities to which the public has been invited to subscribe. This would help to ensure that the individual company does not rely too heavily on fixed-interest debt, and it would also counteract the existing bias in the capital market against government borrowing.

Something has been done in recent years to improve the sources of finance available to small or new firms, which traditionally find it difficult to gain access to the capital market. The Industrial Finance Department of the Commonwealth Bank makes long-term loans to small firms and provides hire-purchase finance for the purchase of industrial plant. Some State Governments provide financial assistance, in the form of guaranteed bank loans, to firms that cannot otherwise obtain funds for expansion. More recently, also, specialist private finance institutions have been established in Melbourne and Sydney with the express intention of facilitating industrial development by small firms.

5. *Summary*

This survey suggests that the authorities have been reasonably successful in their efforts to shelter the Australian economy from the adverse external situation. Unless there is a sudden and substantial reversal of recent trends, however, the battleground of economic policy will soon change from the domestic field to the balance of payments; and drastic action, perhaps devaluation of the Australian pound, will be needed in order to restore external equilibrium. In any event it will be necessary to find a method of financing our economic development that does not involve the continued use of our international reserves. The task of making adequate provision for housing and ancillary services, health and education, transport, and industrial development will for demographic and other reasons continue to be a pressing one throughout the next decade. If the impetus to economic expansion is not to be checked it will almost certainly be necessary to increase domestic savings. At the end of 1958 the basic problem of Australian economic policy is to reconcile the requirements of a rapid rate of development with the loss of resources resulting from the substantial deterioration that has occurred in our external position.

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THE NEW ZEALAND ECONOMY, 1957-8

1. *Introduction*

The course of the New Zealand economy during 1957-8 was influenced by the most serious decline in export prices for over 25 years. The export prices index for the first quarter of 1958 was 17 per cent below both that for the first quarter of 1957 and the average for the years 1954-6. But the inflationary conditions which have existed throughout the post-war period continue. Wages and internal prices are still increasing, there is full employment and the gross national product for the year ended 31st March, 1958, was 5 per cent greater than in the previous year.

The main purpose of this survey is to explain, as far as possible, the recent changes in the principal economic aggregates and to consider the likely changes in the near future. This is a task which could be best accomplished with the aid of an econometric model which takes account of the general interdependence of the variables in the system. The most that can be achieved without such a tool is an explanation of the more direct and obvious causal relations.

2. *The National Product*

The gross national product (Table I) increased by 5·4 per cent between 1956-7 and 1957-8. Between the same periods the average consumers' price index for the year increased by 2·2 per cent while the average population for the year increased by 2·4 per cent. The real gross national product increased, therefore, by 3·0 per cent and the

TABLE I

Gross National Product, 1947-58

Year Ended 31 March	Gross National Product (£ millions)	Gross National Product at 1955 Prices (£ millions)	Gross National Product Per Head at 1955 Prices (£)	Percentage Change in Gross National Product Per Head at 1955 Prices
1947	425	667	377	
1948	481	723	400	+ 6·1
1949	489	699	379	− 5·2
1950	552	781	415	+ 9·5
1951	697	913	476	+14·7
1952	722	845	431	− 9·5
1953	757	858	427	− 0·9
1954	841	890	432	+ 1·2
1955	930	946	449	+ 3·9
1956	984	978	455	+ 1·3
1957	1,026	986	449	− 1·3
1958	1,081	1,016	452	+ 0·7

Sources: Official Estimates of National Income
Abstract of Statistics

real gross national product per head by 0·7 per cent. These changes can be compared with an increase of 0·8 per cent in the real gross national product and a decrease of 1·3 per cent in the real gross national product per head between 1955-6 and 1956-7. The real gross national product was greater in 1957-8 than in any previous year. But the real gross national product per head was 5 per cent lower than in 1950-1 and slightly lower than in 1955-6.

Since there has been virtually no unemployment in New Zealand during the post-war period, changes in the real gross national product can be attributed mainly to changes in the terms of trade, changes in the labour force, capital accumulation and technical progress. An estimate of the changes directly caused by changes in the terms of trade is shown in Table II.[1]

TABLE II

Analysis of Changes in Real Gross National Product, 1955-8

Year Ended 31 March	Percentage Change in Real Gross National Product	Percentage Change in Average Terms of Trade for Year	Percentage Change in Real G.N.P. Caused by Change in Terms of Trade	Percentage Change in Real G.N.P. Not Caused by Change in Terms of Trade	Percentage Change in Average Labour Force for Year	Percentage Change in Real G.N.P. per Person Employed Not Caused by Change in Terms of Trade
1955	+6·3	+ 2·0	+0·5	+5·8	+2·2	+3·6
1956	+3·4	+ 3·0	+0·8	+2·6	+1·7	+0·9
1957	+0·8	− 8·0	−2·2	+3·0	+2·0	+1·0
1958	+3·0	−10·0	−2·7	+5·7	+2·0	+3·7

Sources: Official Estimates of National Income
Abstract of Statistics

This is simply an estimate of the changes which would have occurred as a result of changes in import and export prices if the pattern of production and trade had remained constant. Changes in the terms of trade will, of course, have had some effect on production and trade and, an indirect effect, therefore, on the real gross national product. No allowance has been made for such effects.

The table shows that the 3 per cent increase in the real gross national product between 1956-7 and 1957-8 can be analysed approximately into a 2·7 per cent decrease directly caused by the deterioration in the terms of trade, a 2 per cent increase caused by the increase in the labour force and a 3·7 per cent increase caused by capital accumulation, technical progress and other factors. The figures in the last

1. This estimate has been derived by subtracting from the percentage increase in export prices, multiplied by the ratio of exports to the gross national product in the preceding year, the percentage increase in import prices multiplied by the estimated import content of consumers' goods. The reason for using the import content of consumers' goods as a weight is that the consumers' price index has been used for deflating the gross national product. The estimated import content of consumers' goods (0·27) was derived by the government statistician from the 1952-3 inter-industry study.

column of the table suggest that capital accumulation and technical progress have, over the last four years, tended to cause an average rate of growth of about 2 per cent per annum in the real gross national product per person employed. Factors which have contributed to the fluctuations about this average rate of growth are changes in weather conditions, the number of hours overtime worked and the distribution of the labour force between industries.

3. *Personal Consumption*

Personal expenditure on consumers' goods and services (Table III) increased by 7·8 per cent between 1956-7 and 1957-8 as compared with 4·2 per cent between 1955-6 and 1956-7. The corresponding increases at constant prices were 5·5 per cent and 0·6 per cent respectively. Real personal consumption per head after decreasing by 1·3 per cent between 1955-6 and 1956-7 increased by 3·0 per cent between 1956-7 and 1957-8 and was greater in 1957-8 than in any previous year.

Personal consumption was in 1957-8 equal to 67 per cent of the

TABLE III

Personal Expenditure on Consumers' Goods and Services, 1949-58

Year Ended 31 March	Personal Expenditure on Consumers' Goods and Services (£ millions)	Personal Consumption at 1955 Prices (£ millions)	Personal Consumption per Head at 1955 Prices (£)	Personal Consumption as Percentage of Gross National Product	Personal Consumption as Percentage of Disposable Income
1949	340	486	264	70	94
1950	359	508	270	65	86
1951	416	545	284	60	78
1952	475	556	284	66	90
1953	471	534	266	62	84
1954	537	568	276	64	85
1955	614	625	297	66	89
1956	649	645	300	66	90
1957	676	649	296	66	89
1958	729	685	305	67	87

Sources: Official Estimates of National Income
Abstract of Statistics

gross national product and 87 per cent of disposable income.[2] The corresponding average percentages over the last 10 years were 65 and 87 per cent respectively. But there has, as Table III shows, been considerable variation about these averages. This variation appears to have been caused mainly by changes in the factorial distribution of income and the rate of growth of non-wage income.

Over 97 per cent of the variance of real personal consumption over the last ten years can be explained by a linear function of current real disposable wage income (including pensions) and current and lagged

2. Disposable income is here defined as private income less direct taxation less payments into the primary products stabilization accounts.

real disposable non-wage income.[3]. This function assumes a zero marginal propensity to save out of disposable wage income. Attempts to obtain a plausible estimate of this parameter from available time series have, so far, been unsuccessful.[4] But, in view of the comparatively high social security benefits in New Zealand, the assumption that the marginal propensity to save out of disposable wage income is approximately zero is not unrealistic. Subject to this assumption the estimated marginal propensities to consume out of current and lagged disposable non-wage income are each equal to 0·17.

TABLE IV

Estimated and Actual Personal Expenditure on Consumers' Goods and Services at 1955 Prices, 1949-58

(£ millions)

Year Ended 31 March	Real Disposable Wage Income	Real Disposable Non-Wage Income	Personal Expenditure on Consumers' Goods and Services at 1955 Prices		
			Estimated from Data in Previous Columns	Actual	Deviation from Estimate
1949	350	164	477	486	+ 9
1950	382	211	513	508	− 5
1951	391	303	545	545	0
1952	412	205	565	556	− 9
1953	416	218	555	534	−21
1954	430	238	575	568	− 7
1955	461	236	609	625	+16
1956	488	228	634	645	+11
1957	493	240	640	649	+ 9
1958	541[1]	244[a]	690	685	− 5

a. approximate

Sources: Official Estimates of National Income
Abstract of Statistics
Report on Income and Income-Tax Statistics

The deviations of personal consumption at 1955 prices from estimates obtained from the consumption function are shown in Table IV. Personal consumption in 1957-8 differed from the estimate by less than 1 per cent. The 6 per cent increase in real personal consumption

3. $$C(t) = \underset{(4)}{67} + W(t) + \underset{(0\cdot12)}{0\cdot17}N(t) + \underset{(0\cdot12)}{0\cdot17}N(t-1)$$
$$R^2 = 0\cdot97$$

$C(t)$ = personal consumption in year t at 1955 prices
$W(t)$ = real disposable wage income (including pensions) in year t
$N(t)$ = real disposable non-wage income in year t
R^2 = proportion of variance of $C(t)$ explained.

The equation was estimated by least squares regression subject to the restriction that the coefficient of $W(t)$ is not greater than unity. The figures in brackets are the estimated standard errors. Since $N(t)$ is not predetermined the estimates will be to some extent biased. But, in view of the small residual variance, this bias is likely to be small.

4. The estimation of the above equation by unrestricted least squares regression gave an estimated marginal propensity to consume out of disposable wage income of 1·05.

between 1956-7 and 1957-8 appears to have been caused mainly by an extraordinary large increase in real disposable wage income. This in turn was partly caused by a large reduction in direct taxation payable by wage earners during the latter year.

4. *Private Capital Formation*

Gross private capital formation (Table V), after having decreased for two successive years, increased by 18 per cent between 1956-7 and 1957-8. The ratio of gross private capital formation to the gross national product was, nevertheless, only 0·14 as compared with an average ratio of 0·15 over the last nine years. But Table V shows that this ratio has varied considerably and that the variation has been caused mainly by

TABLE V

Gross Private Capital Formation, 1950-8

Year Ended 31 Mar.	Gross Private Fixed Capital Formation			Gross Private Fixed Capital Formation as Percentage of G.N.P.	Change in Stocks	Gross Private Capital Formation	Gross Private Capital Formation as Percentage of G.N.P.
	Buildings (£m.)	Other (£m.)	Total (£m.)		(£m.)	(£m.)	
1950	28	29	57	10	+14	71	13
1951	37	37	74	11	+49	123	18
1952	44	47	91	13	+37	128	18
1953	42	56	98	13	+13	111	15
1954	51	53	104	12	−21	83	10
1955	68	62	130	14	+29	159	17
1956	66	62	128	13	+19	147	15
1957	64	55	120	12	+ 8	130	13
1958	76	61	137	13	+16	153	14

Sources: Official Estimates of National Income
Economic Survey

stock changes. The ratio of gross private fixed capital formation to the gross national product was 0·13 as compared with an average ratio of 0·12 over the last nine years.

There are two reasons for the comparatively large variation in stock changes. First, no adjustment has been made for stock appreciation. The figure for the change in stocks in any year is the change in the value of stocks between the beginning and the end of the year rather than the change in volume valued at current prices. Secondly, because of continuous full employment, it is mainly through stock changes that annual variations in aggregate supply and demand have been equated. There are forces which have, nevertheless, tended to preserve a long-run relation between stocks and output. A low and decreasing level of stocks results in more rapid inflation and a redistribution of income from wage earners to profit receivers. This leads, as has been shown, to a decrease in personal consumption which tends to check the decline in stocks.

Fixed capital formation, throughout the post-war period, has been influenced by various direct controls. The most important of these are

import restrictions, building controls and control over capital issues. It has been shown that a high proportion of the variance of fixed capital formation in several important sectors of the economy can, nevertheless, be explained by market forces.[5] This is true also of aggregate fixed capital formation. Over 70 per cent of the variance of gross private fixed capital formation (excluding housing) at constant prices over the period of 1950-7 can be explained by a linear function of lagged disposable non-wage, non-farm income deflated by the price of capital goods.[6] The deviations from the estimates obtained from this function are shown in Table VI.

TABLE VI

Estimated and Actual Gross Private Fixed Capital Formation (Excluding Housing) at 1955-6 Prices, 1950-8

(£ millions)

Year Ended 31 March	Disposable Non-Farm Non-Wage Income Deflated by Capital Goods Price Index	Gross Private Fixed Capital Formation (Excluding Housing) at 1955-6 Prices		
		Estimated from Data in Previous Column	Actual	Deviation from Estimate
1949	87			
1950	107	54	53	− 1
1951	126	64	63	− 1
1952	124	74	68	− 6
1953	110	73	70	− 3
1954	131	66	72	+ 6
1955	138	76	86	+10
1956	137	80	82	+ 2
1957	142	79	73	− 6
1958		82	82	0

Sources: Official Estimates of National Income
Economic Survey
A. D. Brownlie, *op. cit.*

Following the removal of building controls in December 1956 there was an extraordinarily large increase in private expenditure on buildings other than housing. It is estimated that this class of investment increased by at least £7 million or 35 per cent between 1956-7 and 1957-8. The investment function, nevertheless, predicted the volume of private fixed capital formation (excluding housing) for the latter year without error. The stimulus to investment provided by the re-

5. See A. D. Brownlie, "Private Investment in New Zealand 1950-56," to be published in the next issue of this journal.

6. $I(t) = 11 + 0{\cdot}50P(t-1)$
(2) (0·14)
$R^2 = 0{\cdot}70$
$I(t)$ = gross private fixed capital formation (excluding housing)
$P(t)$ = disposable non-wage non-farm income deflated by the price of capital goods in year t.
The above equation was estimated by least squares regression from data for the years 1950-7. The year 1957-8 was omitted from the sample because of the removal of building controls in December 1956.

moval of building controls must have been offset, therefore, by the restraining influence of some other factor.

It is possible that the liquidity of the economy has now been reduced to a level where monetary policy is having a significant influence on investment. During each of the years 1956-7 and 1957-8 the ratio of the average volume of money to the gross national product was less than in any other post-war year. And, in both years, the volume of private fixed capital formation (excluding housing) was below the expected level based on the investment function (provided that some allowance is made for the effect of the removal of building controls on investment in the latter year). Moreover, these negative deviations cannot like those in the early post-war years be attributed to the severity of direct controls. These facts cannot, of course, be regarded as strong evidence that the volume of money is now having a significant restraining influence on private investment. But they do, at least, show that such a hypothesis is not refuted by the statistics.

5. *The Balance of Payments*

The deficit in the current balance of payments (Table VII) was £50 million in 1957-8 as compared with £19 million in 1956-7. The change was caused mainly by a 14 per cent increase in payments for imports, this being made up of a 5 per cent increase in prices and a 9 per cent increase in volume. Most of the increase in the volume of imports can be explained as the result of increases of 6 per cent in the volume of personal consumption and 9 per cent in the volume of private fixed capital formation.

A new system of import licensing was introduced as from 1st January 1958. But because of the time lag between the ordering and arrival of imports and the granting of excess licences to cover existing contracts this had little effect on payments for imports during the first 6 months of 1958.

Between the first quarters of 1957 and 1958 the index of export prices decreased by 17 per cent. The decreases in prices of individual

TABLE VII

Net Overseas Exchange Transactions, 1956-8

(£ millions)

—	Year Ended 31 March			Year Ended 30 June	
	1956	1957	1958	1957	1958
1. Exports	273	275	274	286	257
2. Other Receipts	38	46	44	45	55
3. Government Payments	40	44	46	44	52
4. Private Imports	242	234	266	238	271
5. Other Payments	45	42	45	42	49
6. Balance of Overseas Transactions ..	−16	1	−40	7	−60
7. Current Balance of Payments ..	−31	−19	−50	—	—

Sources: Reserve Bank Bulletin
Official Estimates of National Income

commodities were 22 per cent for butter, 30 per cent for cheese, 3 per cent for meat and 23 per cent for wool. The principal cause of the decline in wool prices was, no doubt, the United States recession which led to a decrease in the world consumption of raw wool. The decrease in the price of dairy products was caused mainly by an increase in the production of these products in Europe and a resulting increase in supplies to the United Kingdom market.

Most of the decrease in export prices occurred during the last quarter of 1957 and the first quarter of 1958. There was, moreover, a substantial increase in prices during the early months of 1957. For this reason the export prices index was only 5 per cent lower, on average, for the year ended 31st March, 1958, than for the previous year while receipts from exports were approximately equal in the two years. Receipts from exports during the year ended 30th June, 1958, were 10 per cent lower, however, than in the previous year.

6. *Wages and Prices*

We have seen that one of the consequences of the substantial increase in aggregate demand between 1956-7 and 1957-8 was an increase of 9 per cent in the volume of imports. But, in view of the imperfect substitutability between imports and home produced goods and the comparatively fixed supply of the latter, we should expect, as a further consequence, an increase in the rate of inflation. Table VIII shows that there was in fact a tendency for this to occur.

TABLE VIII

Wages and Prices

(percentage increase since preceding year)

Year Ended 31 March	Award Wages (Adult Males)	Salary and Wage Payments per Person Employed	Import Prices	Export Prices	Consumers' Prices	Consumers' Prices (Excluding Prices of Fruit Vegetables and Eggs)
1955	+4·8	+9·4	−1·5	+0·5	+4·0	+5·5
1956	+2·8	+6·5	0·0	+2·5	+2·3	+2·3
1957	+3·6	+3·7	+3·5	−4·2	+3·5	+1·9
1958	+3·0	+6·5	+5·5	−4·7	+2·2	+3·6

Sources: Abstract of Statistics
Official Estimates of National Income

Average salary and wage payments per person employed increased by 6·5 per cent between 1956-7 and 1957-8 as compared with 3·7 per cent between 1955-6 and 1956-7. This acceleration of wage payments was not a result of changes in award wages since these increased by only 3 per cent between 1956-7 and 1957-8 as compared with 3·6 per cent between 1955-6 and 1956-7. Nor can a change of this magnitude be accounted for by changes in overtime payments. It appears, therefore, that there was an increase in the competitive bidding up of wage rates by employers.

The effect of variations in aggregate demand on prices has been partly obscured by price variations resulting from other causes. The prices of commodities in the fruit, vegetables and egg group in particular have been greatly affected by changes in weather conditions and other factors affecting their supply. Evidence of the effect of variations in aggregate demand on consumers' prices is provided, however, by an index of the prices of all other consumers' goods. This index increased by 3·6 per cent between 1956-7 and 1957-8 as compared with 1·9 per cent between 1955-6 and 1956-7. This change can be only partly explained by the greater rise in import prices between 1956-7 and 1957-8. The higher level of aggregate demand in the latter year appears, therefore, to have had some effect on prices.

7. *Government Finance*

Government receipts from direct taxation (Table IX) were £16 millions lower in 1957-8 than in 1956-7. This decrease was the result of a rebate of £100 on all personal assessments relating to income for the latter year. Since most of the benefit of this rebate accrued to salary and wage earners it must have had an important influence on consumption. By using the consumption function discussed in Section 3 it has been estimated that £12 to £16 millions of the increase in personal consumption between 1956-7 and 1957-8 was caused by the decrease in direct taxation. But the increase in personal consumption at factor cost was checked by an increase of about £7 millions in indirect taxes, less subsidies.

There was an additional increase of about £11 million in aggregate demand as a result of increased government expenditure on goods and

TABLE IX

Government Finance, 1954-8

(£ millions)

	Year Ended 31 March				
	1954	1955	1956	1957	1958
1. Direct Taxes	141	155	160	169	153
2. Indirect Taxes	66	80	85	83	91
3. Trading Income	18	20	21	21	21
4. Current Revenue	225	255	266	273	265
5. Current Expenditure on Goods and Services	91	92	101	109	114[1]
6. Transfers	86	95	99	105	111[1]
7. Subsidies	15	13	12	13	14
8. Revenue Balance	33	55	54	46	26
9. Capital Expenditure	57	59	67	72	72
10. Net Borrowing	24	4	13	26	46
11. Overall Cash Surplus	7	18	−11	−4	−22

[1] Approximate

Sources: Official Estimates of National Income
Abstract of Statistics
Budgets

services and transfer payments. Finally, there was in 1957-8 an overall cash deficit of £22 millions in the public account, and this may, through its effect on the volume of money, have had a signficant effect on private spending. It appears, taking into account all of the above changes, that at least £16 million of the increase in aggregate demand for goods and services at factor cost between 1956-7 and 1957-8 can be attributed to government finance.

It is officially estimated that receipts from direct taxation will be about £33 millions greater in 1958-9 than in 1957-8. As a result of this increase personal consumption will probably tend to decrease by £15 to £25 millions. Personal consumption at factor cost will tend to decrease further as a result of an increase of about £8 millions in indirect taxes less subsidies, but increase as a result of an increase of about £10 millions in social security benefits and a payment of £5 millions to support the guaranteed price for dairy products. Finally, it is estimated that government expenditure on goods and services will increase by about £5 millions. As a result of all of the above changes aggregate demand for goods and services at factor cost will probably tend to decrease by £5 to £15 millions.

8. *Monetary Changes*

The average supply of money (Table X) was, in spite of the decline in the overseas assets of the banking system, 3 per cent greater in 1957-8 than in 1956-7. The increase was caused partly by an increase in trading bank advances and partly by an increase in government indebtedness to the Reserve Bank. There was a decrease, however, in the ratio of the average supply of money to the gross national product, and the ratio was lower in 1957-8 than in any other post-war year. The close inverse relation between this ratio and the yield on long-term government securities (Table X) provides evidence of the effect of the reduction in liquidity on the general level of interest rates.

There are good *a priori* reasons for believing that the increase in interest rates which has occurred during the last few years has tended to discourage private spending to some extent. But whether or not this effect is sufficiently strong to be of practical importance is as yet uncertain.

9. *Prospects for 1958-9*

We are now half-way through the year ending March 1959. Assuming that the average level of export prices during the next six months does not differ much from the present level receipts from exports will probably be £240 to £260 millions in 1958-9 as compared with £274 millions in 1957-8. Payments for private imports will probably be £210 to £230 millions as compared with £266 millions in 1957-8 and the current balance of payments deficit £20 to £40 millions as compared with £50 millions in 1957-8.

Assuming that neither import nor export prices change much during the next six months, the average terms of trade will be 10 to 15

TABLE X

Money Supply and Security Yields

Year Ended 31 March	Average Money Supply (£ millions)	Average Money Supply as Percentage of Gross National Product	Average Yield on Long Term Government Securities
1950	214·1	38·8	3·00
1951	243·1	34·9	3·06
1952	267·3	37·0	3·26
1953	256·2	33·9	3·95
1954	288·7	34·3	3·99
1955	312·5	33·7	4·03
1956	318·5	32·5	4·25
1957	318·8	31·1	4·72
1958	328·6	30·4	4·87

Sources: Reserve Bank Bulletin
Abstract of Statistics

per cent lower in 1958-9 than in 1957-8 and this change will tend to reduce the real gross national product by 2 to 4 per cent. This tendency will be roughly offset, however, by the growth of the labour force, capital accumulation and technical progress. The real gross national product will probably be about the same in 1958-9, therefore, as in 1957-8. But, because of a decrease in net overseas borrowing, the volume of goods and services available to meet private and government demands could be up to £20 millions less than in 1957-8.

It has been shown that aggregate demand will probably tend to decrease by £5 to £15 millions as a result of government finance. But there will, on the other hand, be a tendency for aggregate demand to increase as a result of a change in the distribution of income. Under the above assumptions concerning export prices deflated farm income will probably be £10 to £30 millions lower and deflated non-farm income £10 to £30 millions higher in 1958-9 than in 1957-8. Because of a very low marginal propensity to consume (estimated to be 0·1 to 0·4) out of current disposable farm income this change in the distribution of income will probably increase aggregate demand by an amount sufficient to roughly offset any decrease resulting from government finance. Deflated disposable non-wage, non-farm income was approximately the same in 1957-8 as in 1956-7, so that the volume of gross fixed private capital formation will probably be about the same in 1958-9 as in 1957-8.

It appears from the above analysis that aggregate demand at constant prices will be not much different in 1958-9 from what it was in 1957-8, but that the volume of goods and services available to satisfy this demand will be slightly smaller. The upward trend in wages and prices and the state of full employment can be expected, therefore, to continue.

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THE VARIED ROLE OF CENTRAL BANKS*

1. *Introduction*

One of the most popular activities just now among economists in many countries is to undertake a re-examination of monetary policy. This applies to the objectives to be aimed at, to the methods to be used, and to the results that are to be expected. The burst of enthusiasm which followed the revival of monetary techniques in the United States of America, United Kingdom and elsewhere, in 1951 and after, has given way to a more sober balance of opinion on the subject. Those who were sceptical from the beginning may feel that their scepticism was well justified. The enthusiasts are perhaps still confident but not quite so certain of themselves. There are those who see little chance of monetary techniques, whether of the orthodox variety or newly devised, being allowed to work effectively, because of inhibitions in the minds of politicians concerning anything which looks like interfering with the Welfare State. This is in marked contrast to the time when, shortly after the first world war, a crop of new central banks appeared, prompted by faith in the power of a central bank to stabilize the price level and maintain convertibility of the currency. Within a few years came the great depression. It was not long before convertibility of most currencies came to an end; moreover, there was a re-assessment of the importance of convertibility relative to other economic objectives.

Then came a second crop of new central banks in the middle 'thirties, built on the old pattern but with a new mission in life—to establish a promised land where the goal of endeavour, the *summum bonum*, was expressed in the phrase "full employment". With the help of wars and rumours of wars, that goal has certainly been achieved—achieved too well, as troubles have come from over-full employment rather than the opposite.

Now, in 1958, the questions are being asked:

Is it so true, after all, that full employment can always be assured, that anything more serious than a mild recession cannot happen again?

Have not restrictive monetary measures been applied and yet spending and prices keep on rising?

And when monetary measures have appeared to be successful in restraining inflation, have they not done more harm than good by slowing down the rate of growth—is not a good rate of growth more important than price stability?

Is not monetary policy too indiscriminate in its effects, and in particular is it not too harsh on the "small man"?

Is not the banking system becoming relatively less important compared with non-banking financial institutions and the State. Do we

* Presidential Address, Section G., Adelaide Meeting of the Australian and New Zealand Association for the Advancement of Science, August 1958. The author is Economic Adviser to the Reserve Bank of New Zealand. Any views expressed are those of the author and are not necessarily those of the Reserve Bank of New Zealand.

not need to look more to these other institutions and to fiscal policy, if we are to achieve approved economic objectives?

And are not the old monetary techniques unsuitable now anyway, and in need of replacement by new ones?

2. *Central Banks in Under-developed Countries*

While all this heart-searching has been going on, with many learned books and articles being written on the subject, and with the Radcliffe Committee deliberating in London, more new central banks are being set up in under-developed countries. They are not waiting for economists to agree on what central banks can be expected to achieve when they operate in developed economies and established money markets (why should they?!). Nor are they waiting for anyone to formulate a clear philosophy and programme for central banks in economies such as theirs. Parallel with the progressive dismantling of the old colonial system there has been a strong urge for the newly-independent countries to set up new central banks. It is true that financial independence naturally goes with political independence, and some new financial institutions are inevitable. A central bank, especially if it has a brand new building, can be an appropriate symbol of maturity and independence. Can it be anything more than that—can it establish itself in a position of influence within the economy and within Government policy-making circles? If so, how? Are the lessons learned in more developed countries of any use, or are they irrelevant?

One thing is certain—the orthodox techniques of central banking do not apply in such countries. They were devised for a fully monetised economy, with developed institutions in banking, the money market, and the capital market, with economic incentives and private enterprise fully operating. Central bank actions were based on the fact that changes in the marginal availability and cost of short-term funds were powerful influences, and that means were available, through bank liquidity and short-term interest rates, to bring about those changes that appeared desirable.

These conditions scarcely exist in under-developed countries, and I need do no more than mention the principal differences. The under-developed countries have a peasant economy, with 60 to 80 per cent of the population living and working on small holdings, many of them merely tenant farmers and paying 50 per cent or more of their crops to the landlord as rent; there are large non-monetised sectors; currency forms a high proportion of money supply (in India it is two-thirds); the money supply is only 20 per cent or less of national income; the overdraft system and the cheque system are hardly known outside the main cities; there is a lack of entrepreneurs; and there is the vicious circle of low incomes, low productivity, low savings (only about 5 per cent of national income) and a low level of investment. The principal banks are often branches of foreign institutions concerned primarily with external trade, and having few if any branches outside the main ports or commercial centres; bank advances are only between 2½ and

10 per cent of national income, compared with about 16 per cent in New Zealand. Moreover, many non-economic factors influence private economic activity, as is described by Zinkin:

"The price of development is high; a society which wishes to develop must be prepared to put development in the very forefront of its priorities. The people must at least be willing to replace the generosity of ceremony and festival by skimping thrift, to exchange the pleasure of lying on a cot in the shade for back-breaking work, to buy savings bonds and share certificates instead of adorning their wives. . . . In under-developed societies this may well mean turning society upside down. . . . Asia's difficulty is . . . that its values give a low place to economics and change and making money, a high place to stability, saintliness and power. . . . They find it difficult to settle down to the long haul of sacrifice and work and acceptance of unpleasant change that development demands. They are too easily diverted. They buy arms instead of building dams; . . . they choose showy schemes rather than profitable ones; their rich men, like Arab oil-kings, buy Cadillacs instead of irrigating their land."

What can a central bank do in this environment? Open market operations in the orthodox sense may be impracticable, bank rate in the usual sense has little meaning; hire purchase is almost unknown; the banking system does not impinge on the lives of the great majority of the population; and there are many social practices and religious ideas which impede the development of monetary and credit procedures. For example, because of lack of a proper system of land titles it may be impossible to use land as security for loans to working farmers, most of whom are only tenants anyway. Central banking is therefore not merely a matter of establishing some rules for commercial banks or setting up machinery for central banking operations. There are many social and administrative changes also required in spheres other than banking, most of which require Government action.

It is of course difficult to generalize about a number of countries, some of which are large enough to have regional differences within their borders; but there are some lines of responsibility for central banks in under-developed countries which stand out clearly:

1. Concentrate on providing (or ensuring that other people provide) basic banking facilities in areas where they are non-existent or inadequate. For example, the State Bank of India—the nationalized version of the Imperial Bank of India—was required by statute to open 400 new branches within five years of its re-organization.
2. Encourage the banking habit—something that requires gradual education and probably cannot expand faster than literacy permits. It seems a pity that the Government of Ceylon should introduce a tax on bank debits, even though in Ceylon the banking habit is much further developed than in most other Asian countries.

3. Open a wider and speedier network of remittance facilities throughout the country.
4. Promote improved storage and warehousing facilities so that loans against the security of crops can be simplified.
5. Act as midwife at the birth of co-operative societies, with a parallel system of co-operative credit institutions, backed in the last resort by rediscount facilities at the central bank.
6. Regulate and inspect the indigenous banks to ensure their efficiency and integrity.
7. Regulate the private money-lenders, and squeeze them out of existence not by legislation but by providing better and cheaper credit facilities. Some method of scaling down accumulated debts may also be practicable.

In this context, the All-India Rural Credit Survey is most enlightening. It found, among many other things, that 47 per cent of all borrowing by cultivators was for meeting family expenses and basic needs. These loans were mainly from money-lenders, landlords, merchants, or relatives. In a table showing sources of agricultural credit in India, Japan and Thailand, commercial banks were not even mentioned.

It is clear that in under-developed countries the role of central banks is not to any great extent a restrictive one. It is more likely to be involved in *expanding* the scope of commercial banking and co-operative credit, ensuring that facilities are more widely available and used, and that the advantages of a market economy are achieved. Already there are new banks and specialized credit institutions growing up, often with the encouragement and backing of the central bank; but compared with the large rural population their task is just beginning. Only a small proportion of farmers have so far had the benefit of their improved lending facilities.

In these circumstances a tendency for general over-expansion of bank credit to the private sector does not exist as it does in more developed countries. Bank advances are small relative to national income, and tend to be confined to financing commerce, especially external trade. The Annual Report for 1957 of the Central Bank of Ceylon showed that the purposes of commercial bank credit, as at September 1956 were:

Export Trade	45 per cent
Other Commerce	30 per cent
Finance	10+ per cent
Agriculture and Industry ..	10— per cent

In these circumstances, too, the idea which is widely held in more developed countries—that commercial banks should not provide long-term finance for fixed capital purposes—is much less appropriate. There is so little in the way of a capital market, and so great a need for capital, that the arguments in favour of banks participating in this

kind of finance are relatively strong. In India a Re-finance Corporation is being formed so that any bank which becomes financially embarrassed through "lending long" can restore its liquidity by a re-discounting process at a special institution financed by the Central Bank, some of the commercial banks, and the Government.

M. Zolotas, Governor of the Bank of Greece, in a speech last February, went so far as to suggest that in under-developed countries commercial banks "should not merely wait for applications from businessmen in order to finance productive purposes, but they should be so organized that when they find that businessmen show no interest in establishing or expanding productive enterprises, they may effectively suggest and recommend the estabishment, modernization or merger of business and even, if need be, participate indirectly in productive enterprises". This question of banks "lending long" is a well-worn subject. I express no specific opinion here on one side or the other, but suggest that here is a case in which the rules applying to banking in developed capital markets are not necessarily applicable in different environments, where there may still be scope for commercial banks to be adventurous and adaptable.

The Public Sector: The danger of inflation in under-developed countries comes not so much from the private as from the public sector. The urge to economic development, and the various development plans which arise as a result, usually require more capital than is available from current saving or foreign loans, and the almost inevitable result is that the gap is filled by Government borrowing on a large scale from the central bank. It is often difficult for a central bank to resist. It may be as keen as anybody on economic development; it may have a statutory duty to assist in financing it; its economists may have helped to work out the development programme. In any case it is often argued that a limited amount of "deficit financing" would not lead to inflation because there are under-employed resources to be activated and non-monetised sectors to be monetised. That *may* be so (it is arguable) and a central bank in an under-developed country may well find itself lending for development purposes to an extent that would not be appropriate elsewhere; but experience has shown that inflation is still a danger, and the central bank has the difficult task of estimating how much deficit financing for development is "safe".

Central banks do *not* provide an easy means of speeding up the rate of economic development. That will inevitably be a slow, very slow process. As Mr. Iengar, Governor of the Reserve Bank of India, said at the 1957 meeting of Governors of the International Monetary Fund: "At the end of the first five-year plan (April 1956) the per capita income in India per year was $50. And all that is contemplated by the second plan is to raise it to about $60 in five years. In about 20 years from now all that we are hoping to achieve is a per capita income of $100 a year."

In respect of some of the newly-independent countries which have, or are planning to have, a brand new central bank, one is sometimes

inclined to ask, "Is your central bank really necessary?" From Singapore—admittedly a very special case—the official answer has been "No"; but elsewhere (e.g. in Ghana, Nigeria, West Indies, Malaya) there has been no reluctance to proceed with the launching of a new institution. It can reasonably be assumed that those responsible for the launching and subsequent management are well aware that the environment the new banks are working in is unlike London. In time they may gradually develop monetary techniques suitable to their needs, but it will be a slow process and they will be developing a form of central banking for which new text books will have to be written. It has been said that it takes twenty years for a central bank to become established. If so—and there is clearly some truth in that generalization—it is no condemnation of the new central banks if it should seem that they are established ahead of need. Each central bank has to work out its own techniques and ideas, sometimes by trial and error, gathering experience as it goes. We wish them well.

One of their greatest needs will be to find staff. Men experienced in banking and administration, and familiar with the ideas and techniques of central banking, are rare in under-developed countries not long out of the status of dependent territories. It is not surprising that they are looking to older established central banks to provide some of the key members of their staff; and as they naturally want to have their own people take over full responsibility as soon as possible, the question of staff training looms large. Technical assistance to the under-developed countries has taken many forms, and it is only proper that central banking should be included. Last year, on the initiative of the Commonwealth Bank, there was held in Sydney the first of what will probably be a series of staff training courses for central banks. The 18 course members came from 14 central banks, mainly in South-East Asian countries, but including England, South Africa, Japan, Australia and New Zealand. For three months they lived and studied together, working through a syllabus covering every aspect of central banking. There was only passing reference to the London money market, and a strong emphasis on the situation facing a central bank in an under-developed country. Visiting specialists came from overseas as well as from within Australia, and the Commonwealth Bank Staff gave generous help. A second course on similar lines is being held in Sydney this year. In this way a contribution is being made to goodwill between the countries of this part of the world, and to understanding of the varied role of central banks.

3. *Central Banks in More Developed Countries*

It is not only in the under-developed countries that the process of experiment and adaptation is going on among central banks. We must look now at the older established central banks in the more developed countries. No two are the same in structure or in methods; in fact the variety of monetary techniques now being used is large and increasing all the time as central banks seek better methods of achieving their

objectives. Central bank techniques were never perfect anyway, and with changing conditions and often a sense of dissatisfaction with past results there is a strong urge to try new ways. Meanwhile the academic economists join in the process of re-appraisal of monetary policy, with this difference that for them the process is not as agonizing as it is for those responsible for making policy decisions. The process has been made more complicated, but also more interesting, by the recent appearance of recessions and greater unemployment in many countries, a contrast with the experience of most of the past twenty years. To central banks which have had so many years in which to study the art of leaning against an inflationary wind, a change in the direction of the wind is likely to leave them flat on their face unless their meteorological services are very efficient.

I mentioned earlier some of the reasons often stated for believing that monetary policy—and therefore central banking too—may be a diminishing influence in a modern economy. I want to look at each of these in turn, not with a view to proving them all wrong, not in a mood of indignant self-assertion on behalf of central banks, but hoping to clarify the issues a little and to see how the central banks concerned might adapt themselves to the situation of the future.

The Clash of Growth and Stability. In many central bank statutes, it appears that the various goals of economic policy—price stability, full employment, convertibility of currencies, economic growth and development—are presumed to be fully consistent with one another, and therefore a central bank can reasonably be required to pursue all of them simultaneously, and can be blamed if it does not succeed. One can always hope that no serious conflict will arise between these objectives, because it is not unreasonable to believe that there *could* be a situation of equilibrium where prices are steady, unemployment no greater than would be consistent with a healthily flexible and competitive economy, no undue strain on the balance of payments, and a steadily rising level of consumption. All that is needed (apart of course from international peace) is a flexible monetary policy helped (or at least not hindered) by fiscal and wages policy. The monetary authorities would lean against the wind by making money more, or less, freely available from the banking system, and more, or less, expensive to obtain. Any deviation from this equilibrium would presumably follow a typical pattern, with employment, prices, and spending moving consistently, and the central bank having no doubt as to the direction in which it should lean.

The position in recent years, and specially in recent months, has been anything but clear cut. For example, throughout the present economic recession in the United States of America retail prices have kept moving up. That may be explained, in part at least, by seasonal conditions affecting food prices, and by the growing importance of services in the cost of living. But a somewhat similar situation has developed in other countries where a period of credit restrictions has been associated with a slowing down of the rate of expansion of in-

dustrial production—in some cases a levelling off or even a small downturn—with an increase of unemployment but still some increase in retail prices. Balance of payments positions have usually improved, but there remains the suggestion that monetary restrictions cannot stabilize the price level and the balance of payments unless they are severe enough to slow down the rate of growth and increase unemployment. And since the purpose of economic activity is steadily increasing consumption to meet human needs, some are tempted to the conclusion that it might be better to have a little less stability and a little more growth.

This raises a vast subject. I am not going to comment any further except to emphasize the dilemma a central bank can find itself in. No one wants to be in the position of being a spoil-sport, guilty of slowing down economic growth, or of causing an unreasonable degree of unemployment. On the other hand there is a clear-cut responsibility on the central bank to be the guardian (perhaps the last remaining guardian) of the currency, in respect of both price stability and exchange stability. In the push-and-pull of economic forces the central bank must be very persistent in its concern for economic stability in order to counterbalance the many forces in a Welfare State making for chronic inflation and external deficits—not because the central bank does not believe in Welfare but because it believes that inflation is not the best way to achieve it. In the same way a physician believes that human health is not achieved by high blood pressure. Fortunately, there is still good reason to believe that stability of prices and flexibility in the use of resources is a better guarantee of economic growth (and therefore of rising levels of consumption) in the long run than the apparent stimulus of inflation.

The trouble seems to be in the interpretation placed on the term "full employment", which has become an emotional term. It is widely held that in order to ensure "full employment" it is necessary to have over-full employment. The logic is rather hard to follow. As the Cohen Report said—"A free and flexible economic system cannot work without a perceptible (though emphatically not a catastrophic) margin of unemployment". In New Zealand we have had 102 per cent employment (surveyed vacancies at about 2 per cent of the labour force, unemployment negligible) and this has become widely accepted as normal. If we were to move towards a more efficient version of "full employment" (i.e. a state in which it is as easy, in general, for a worker to find an employer as for an employer to find a worker) it would probably cause alarm and a clamour for economic policy (including central bank policy) to be suitably softened in order to avoid a crisis. In this way a limit is set on the extent to which a central bank can be allowed to operate effectively in the interests of economic stability and of that steady growth which is the only real means of improving living standards.

The dilemma a central bank faces may yet disappear if it is found that the slackening of the rate of economic growth in the past two years

or so is due not so much to the impact of credit policy as a reflection of the ending of the upward phase of an investment cycle. There is a good deal of unused industrial capacity in the United Kingdom and United States of America, the post-war boom being based on catching up on arrears. The expansion of capacity has overreached itself and must pause awhile until consumption catches up—which it must do before long. Reierson describes the position in the United States of America thus:

"From 1953 to 1957, industrial capacity appears to have increased by some 22 per cent or more—while industrial production in 1957 averaged only 6 per cent higher than in 1953 and activity in the durable goods industries advanced by about 4½ per cent. Many industries now seem to have sufficient capacity for several years to come."

And in any case it is not true that stability and growth are always incompatible. For example, in Austria, according to the President of the National Bank, in 1957 "the upswing experienced by almost all economic sectors was not accompanied by inflationary symptoms. The expansion was remarkably balanced. Employment and production reached new peak levels and the development of the price wage sector was calm".

The Growth of Non-Banking Financial Institutions

A second factor in the monetary situation is the steady rise in importance of financial institutions other than commercial banks. The twentieth century has seen a very large growth in insurance companies, savings banks, investment trusts, building societies, hire-purchase and industrial finance companies, etc.—in fact the whole range of middlemen in the provision of funds for industry and commerce. As holders of financial assets the commercial banks in some countries may have been losing ground relative to the others,[1] and the greater the use made of credit restrictions applicable to commercial banks the stronger is this trend. Man is an inventive creature, and when unable to obtain finance from a bank he is not slow to devise some other way to obtain it. The commercial banks are by tradition and legislation subject to a degree of discipline by the central bank, the other institutions are not. Is this a disadvantage from the central bank's point of view? On the face of it, yes; but Karl Bopp, a Federal Reserve economist, has his doubts. He says that as the network of credit contacts becomes more elaborate, the influence of monetary authorities permeates the economy more thoroughly; the more widespread ownership of the public debt has a similar effect, as more people are affected by changes in security and property prices. "The tools of central banks have not been blunted seriously," Bopp concludes.

A similar conclusion was reached by Dr. Coombs (1957) in his discussion of the situation of trading banks in Australia, where the

1. Adequate statistics are not available to prove whether this has happened in New Zealand. For an Australian comment see Dr. Coombs' address to the Institute of Bankers (1957) and his Mills Memorial Lecture (1958).

banks (as in some other countries but not including New Zealand) are meeting this problem by themselves participating in the share-holding of other types of financial institution, notably industrial finance, hire-purchase finance, savings banks, and now unit investment trusts.

The question does arise, however, as to whether central banks should have power to regulate these non-banking financial institutions, e.g. by means of minimum cash or liquidity requirements, or by regulating the terms on which they receive deposits or make loans, or by influencing their overall policies by informal consultation and persuasion. My qualified preference is for the last of these, both on general principles and because of the difficulty of formulating regulations that would be both reasonable and effective, to supplement any that may be already in existence in relation to savings banks, hire-purchase terms, and capital issues control. At all events, it is quite clear that central banks must interest themselves more actively in the long-term capital market and in the affairs of these non-banking financial institutions.

Credit Restrictions and the "Small Man"

We often hear credit restriction condemned on the grounds that it is indiscriminate in its operation and is particularly severe on the "small man". It is important to be objective about this. Unfortunately, it is hard to get facts on the subject, the opinions expressed being based often on a few specific cases or on the published balance sheets of large companies. These are liable to be misleading. Some things need to be said, however—

1. During a period of inflation and sellers' markets, there is bound to be an increase in the number of small new businesses formed. When measures are taken to control inflation, some of those small new businesses will be found vulnerable because of insufficient capital, property and equipment bought at high prices, inexperienced management, lack of sufficient competition, and in general a dependence on inflated demand to keep turnover above break even point. They will "go to the wall". Labour will be temporarily displaced, but the employer and the shareholder will suffer, too, perhaps severely. This will happen irrespective of the method used to control inflation; it is not an attribute of monetary policy exclusively.

2. The small man and the small company are vulnerable because they have no access to the public capital market in the way larger public companies have. The remedy is not to allow them to use all the bank credit they want, but to provide appropriate financial institutions as an alternative source of funds in credit-worthy cases.

3. When credit is tight it often happens that small firms, feeling the squeeze, delay payment of their debts, with the result that the wholesalers and manufactures (usually larger firms) find their overdrafts going up. The explanation of higher overdrafts to big firms is often that it is quite involuntary on the part of both the bank and the customer and both are, in effect, "carrying" the small man.

4. A drastic enforced reduction of the overdraft of a big firm may have far-reaching and harmful effects not only on that firm itself but on all firms, large or small, which are linked with it as suppliers or customers.

5. Where a bank is required, by the central bank's credit policy, to make a substantial reduction in its advances, it will not get very far by concentrating on its small customers. They may be numerous but their total advances are a modest proportion of the total. Attention must be paid to the big customers as well.

6. It remains true, however, that banks have difficulty in being harsh on large firms which have been valued customers for a long time, especially if they are of unquestioned soundness and are doing worthwhile work from a national point of view—and this is true regardless of whether the bank is private or state-owned.

While agreeing that there may be a limited basis of fact in the criticism that monetary restrictions are unduly severe on the small man, it does not follow that monetary measures should not be used. Improvements in the capital market are needed, and as the Governor of the Bank of Canada (Mr. Coyne) said in his last annual report, the central bank could give a directive to the commercial banks not to touch the small man—unless of course he is not credit-worthy anyway. It would be well, too, to note the fact that the enormous Bank of America is said to owe its growth, partly at least, to its special care of the "small man".

Impact of a Credit Squeeze

Attempts are sometimes made to specify the particular aspects of the economy which are likely to be affected—or not affected—by a general quantitative restriction of bank credit. It seems to be widely held that stocks of goods and prices of basic commodities are influenced most, while capital expenditure is much less likely to be affected. Sometimes a central bank has been upbraided because it has applied credit restrictions blindly, hoping that the right kind and degree of disinflation will quickly result, that prices, employment, stocks, retail turnover, capital expenditure, and import payments will *all* be neatly adjusted to a position of equilibrium. This, it is said, is far too much to expect—credit restrictions are much more limited and uneven in their impact. And when this view is combined with the criticism that some of the results of credit restrictions are positively harmful (e.g. slowing the rate of growth, hurting the small man, causing too much unemployment) there is a tendency to be sceptical about monetary policy in general.

It is true that in many respects the results have not been as quick and as effective as had been hoped. It is also true that, in New Zealand's experience, virtually every economic series has been influenced to a greater or less extent in the right direction during the period of the credit squeeze—retail turnover, private capital expenditure, import

payments, share prices, vacancies, small savings, interest rates. In respect of some of these indicators the effect has been small, or very late in appearing, or only temporary. Is this due to the inherent deficiencies of monetary policy, to a too lenient application of the restrictions, or to frustration by non-monetary factors including overall deficits in the Government sector? And if the beneficial results *were* due to the credit restrictions, by what detailed chain of events were they achieved—precisely in what ways did changes in the availability and cost of bank advances influence decisions about capital spending, holding of stocks, and consumer spending? Here is a field of research which still remains almost untouched. Something has been written about it but usually from a theoretical standpoint rather than from direct investigation. Maybe the Radcliffe Committee will study the subject, but it will not follow that any findings it makes in respect of the United Kingdom will be applicable to other countries with a different pattern of banking, of financial institutions and of trade. It is a further illustration of the fact that the task of central banks would be easier if we knew more about how the monetary system really works. There is a steady growth of knowledge but a long way still to go.

4. *Conclusion*

It would be easy to set out an impressive list of reasons why the lot of a central banker, like that of the policemen of Penzance, is not a happy one, and why his achievements often fall short of expectations. He has to cope with a host of independent variables—international and domestic politics, the weather, public psychology, vested interests, "sacred cows", built-in rigidities, inadequate statistical data, wage fixing procedures, and inadequate powers. How often in recent years have Governors of central banks all over the world been forced to draw attention to the fact that a monetary policy carefully planned to defeat inflation has been frustrated by fiscal deficits, and to plead for a co-ordination of fiscal and monetary policy!

This sounds very much like an apologia; but there is no need for central banks to feel pessimistic. On the contrary, many basic principles remain firmly established; and there is some consolation in the fact that, even if monetary policy is subject to the limitations and frustrations I have mentioned, the other principal type of action—fiscal policy—is in much the same position. It would be nice to think that it is possible to dovetail the public sector into the private so that the total of spending is neatly stabilized at a level of full employment with a satisfying upward trend. In practice the Budget (in the widest sense) as a means of achieving this end is as uncertain in its effects, as hampered by politics and rigidities, and as full of problems of method and timing as monetary policy is.

In any case there are still ways in which central banks can improve their technique. One of them is to seek fuller economic information and to spend more time and energy analysing it. J. L. Robertson, a member of the Federal Reserve Board, has put it this way:

"If the men charged with formulating monetary policy had instantaneous, complete, and accurate information regarding the (American) economy, and also had the infinite wisdom to evaluate and apply the information precisely, delicate adjustments might be made from day to day that would furnish the country with exactly the amount of credit it needs to achieve our economic objectives—the objectives might not be achieved because of factors beyond our control, but the money and credit supply could be just right.

"Unfortunately, information is not available on those terms, and even if it were, no men have the absolute wisdom to understand it perfectly and to make the necessary decisions without error. The most we can do . . . is to get the best information we can as fast we can, to understand and apply it as well as we can, and then to adjust monetary policy to the needs of the country as we see them. The . . . economy is not a test tube into which one can pour controlled and measured ingredients, and so it follows, time and again, that the formulators of monetary policy misjudge and are compelled to make adjustments later and more radically than would have been ideal, as we see in hindsight."

A second means is to pay more attention to the capital market and its various important and growing institutions, helping to create new ones where necessary, and above all seeking their co-operation and goodwill.

Thirdly, there is the question of public relations. I do not mean the go-getting trumpet-blowing activity with which American commercial firms supplement their advertising. A central bank should not be interested in that sort of thing. What I have in mind is better described as "relations with the public"—helping people to understand what a central bank is for, what it tries to do, and how and why it does it. It is so much easier to get support for a certain line of action if the reasons are clear and the monetary authority has the respect and goodwill of the people. Don't misunderstand me—a central bank is never likely to be a hero or a popular favourite, because it must spend at least part of its energy pushing and pulling the economy in directions in which it is reluctant to go. But a central bank's influence can be constructive, its opinion respected, its actions acknowledged as sound.

Finally, the central bank must be full of new ideas and prepared to experiment. If its powers are limited, it should seek new ones; if its environment is different from that of other central banks, it should adapt its methods accordingly; it must never be satisfied. We are fortunately already in a period of innovation among central banks. The new banks which I referred to earlier are finding their feet and are working out their own methods, with help from older institutions but without feeling bound to copy them. But the burst of innovation is by no means limited to the new banks and the under-developed countries. Take almost any copy of the *International Financial News Survey*, and you will find reference to some monetary measure, somewhere in the world, which is a new technique, or a new variation on an old theme.

Central banking does not stand still, using only a limited range of traditional methods. It is always looking for something new. Consider, for example, the great variety of ways in which variable reserve ratios are being used; the new industrial and rural finance corporations which have been set up under the wing of central banks; the various types of re-discount facilities and limits; the practice of making Bank Rate *follow* the market instead of trying to lead it; the very deliberate actions of the Bank of Canada in creating a short-term money market instead of waiting for one to grow; the special account system and the L.G.S. ratio convention here in Australia; and so on.

It is clear that the role of central banks is becoming a more varied one all over the world. Whatever the variations may be, they will be all based on the central fact—that even though the best monetary policy in the world may be hindered, indeed frustrated, by fiscal or non-monetary factors, changes in the availability and cost of bank credit are still and always will be a major economic force. There will always be scope for a monetary authority, armed with adequate powers, and using them as skilfully as possible in the public interest.

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IMPORT RESTRICTIONS AND TARIFFS: A NEW LOOK AT AUSTRALIAN POLICY

The main argument of this paper is that (a) import restrictions should be replaced by tariffs, and (b) tariff rates should (with limited exceptions) be the same on all imports, as there are few good reasons for the tariff rate to be higher on one product than another. In addition, alterations in the exchange rate should be considered for long-term balance of payments difficulties. Some simple and well-known principles are applied to the analysis of the instruments of Australia trade policy. The aim is to stimulate discussion, and any tendency to dogmatism is for the sake of brevity only.[1]

I

Import Restrictions versus Tariffs

The argument that import restrictions should be replaced by a uniform tariff is not new.[2] We begin here by spelling it out in some detail. It means not only that the whole limitation of imports should be brought about by tariffs, but that the tariff rate should be the same on all imports; even imports which at present are subject neither to tariffs nor to import restrictions would then pay the standard tariff rate. It is assumed that present import restrictions do have some effect in reducing the value of imports and that in the absence of restrictions some other measures would be required to maintain balance of payments equilibrium. The problem arises primarily because import restrictions appear to be becoming a long-run instrument of Australian balance of payments policy. As such, however, they have these disadvantages.

(1) Import restrictions require licences to be allocated; this is a continuous source of friction between the business community and the

1. This paper was originally presented at the 1958 Congress of the Australian and New Zealand Association for the Advancement of Science in Adelaide. It succeeded in creating discussion, and one result is that the present version is considerably revised. I am indebted to a large number of Australian economists for their comments, and in particular to Professor H. W. Arndt, Professor R. I. Downing, Dr. J. O. N. Perkins, Mr. E. A. Russell, Dr. W. Salter and Dr. S. P. Stevens. In addition, a debt is owed to Professor J. E. Meade's *The Balance of Payments* (O.U.P. 1951) and *Trade and Welfare* (O.U.P. 1955) which outline most thoroughly the basic principles applied in this paper.

2. See H. W. Arndt "Import Licensing—Are Objections Valid?", *Voice*, June 1955; P. H. Karmel, *Economic Policy in Australia—Ends and Means* (G. L. Wood Memorial Lecture, Melbourne 1954); and E. A. Russell, "Trade Policies and Australia's Balance of Payments", *Business and Economic Policy* (Third Summer School of Business Administration, Adelaide 1958). (Professor Arndt examines the proposal for a uniform tariff without wholly supporting it.) Aspects of import licensing are also discussed in E. Lundberg & M. Hill "Australia's Long-term Balance of Payments Problems", *Economic Record*, May 1956, T. W. Swan "Longer-run Problems of the Balance of Payments", *A.N.Z.A.A.S.* paper, 1955, and J. E. Meade, "The Price Mechanism and the Australian Balance of Payments", *Economic Record*, November 1956. The uniform tariff idea in the wider context of commercial policy for under-developed countries is discussed favourably by Dr. Gunnar Myrdal in *An International Economy* (Routledge & Kegan Paul Ltd., 1956), pp. 281-2.

public administration, and creates a heavy administrative burden. With tariffs, the only arbitrary element is the fixing of the tariff levels for the various products; and this would be avoided if there were a uniform tariff on all imports.

(2) The monopoly profits which tend to be created by import restrictions go to those importers fortunate enough to have obtained the import licences or to have imported in large quantities in the base year. This becomes particularly evident when the licences are in effect bought and sold, as they have been in some cases in Australia. Tariffs, on the other hand, syphon off the monopoly profits to the Treasury.

(3) Import restrictions raise the landed prices of imports if foreign exporters are able to appropriate to themselves some of the monopoly profits. They thus tend to worsen the terms of trade. Tariffs are more likely to do the opposite.

(4) Import restrictions have an inflationary effect by diverting demand away from imports on to Australian goods. They must then be accompanied by deliberate disinflationary measures (higher taxes, interest rates, lower government expenditures), but the difficulty is that the products for which demand increases due to the import restrictions may not be just the ones for which demand decreases due to the disinflation. So pockets of inflation or unemployment may be unavoidable, particularly in the short-term. On the other hand, tariffs are automatically disinflationary, provided the customs revenue is not spent. The disinflation is *biased* in just the right way to absorb the spare purchasing power created by the reduced imports. If the elasticities of demand for all imports were unity there would be no change at all in the demand for any home-produced goods. (If import demand elasticities are less than unity there has to be some offsetting *in*flation to maintain the demand for home-produced goods—or, in other words, some of the tariff revenue can be spent.)

(5) The factors discussed so far justify the replacement of import restrictions by tariffs. Finally, there is a reason why the tariffs which replace import restrictions should be the same on all imports. Import restrictions tend to have the wrong sort of protective effect, and discriminate undesirably as between goods. While it is true that for any particular import restriction there is always a tariff which would have the same effect on the volume of imports—so that a tariff structure *could* be developed which would keep out exactly the same imports as the import restrictions—the tariff technique provides the opportunity for ensuring that just the right goods are restricted. These are the goods (a) substitutes for which can be produced at least cost in Australia, and (b) which consumers or consuming industries can most do without. In other words, they are the goods for which the price elasticities of demand and supply in Australia are high. This selection would be automatically brought about by a *uniform ad valorem tariff* (or primage duty).

It would most restrict the quantity of those imports the elasticity of demand for which is high. If we suppose that there is no protective effect in the short-run (home elasticities of supply are zero) then a uniform tariff will most cut down imports of *inessentials*, these being defined as goods which consumers or consuming industries will most readily do without when their prices rise. It is this type of selection on the basis of essentiality which import restrictions usually aim at. But the uniform tariff avoids the need for arbitrary selection and enables the goods to select themselves. Even more important is that in the long-run the protective effect must be taken into account. The uniform tariff ensures that, for any given £100 worth of imports replaced, that Australian industry is protected which is able to produce the product with the least excess cost over the price of the imports.

There is thus a strong case for a *uniform* tariff to replace import restrictions. It would automatically discriminate among imports in the desired way.[3]

II

Objections to Replacing Import Restrictions with a Uniform Tariff

There will be general agreement that it is desirable to get rid of the administrative complications and the monopoly profits, and to improve the terms of trade. But a number of objections must still be considered.

(1) *Tariffs and the Cost Level*

Tariffs, it is said, raise the cost structure. So a uniform tariff will raise the costs of imported materials to Australian industry. Replacing import restrictions with tariffs will therefore reduce the competitiveness of industry.

But import restrictions also raise the cost structure, though not precisely the same way. Suppose to begin with that the tariff is not necessarily uniform. If importers charge what the market will bear, and if for every product the tariff is fixed so as to have the same effect on the volume of imports as the previous import restrictions, then there will be no change in home market prices.

There are circumstances when importers do not exploit the monopoly situations created by import restrictions, but present-day Australia does not seem to be one of them. It might be so if the restrictions were expected to be very short-term and traders aimed to maintain goodwill, or if there were price-control or a price-inflexible or "conscience" economy (Britain?), but it is rarely true of a rapidly

3. At present licences for inessential goods (B Class Licences) can be used to import any product in the B-category. This transferability of licences as between commodities tends to have the same effect as a uniform *ad valorem* tariff for all the goods concerned, limited only by imperfections in (what is in effect) the market for licences. The wider the scope for switching licences as between commodities, the less discriminatory the import restrictions.

expanding society.[4] Profits are "taken" not only in the obvious cases where licences are in effect sold, but also when licence holders use the licences themselves in the course of their regular business, and the licence profit is just merged in the general profit of the enterprise.

If importers do *not* "take" the profits, an arbitrary redistribution of income is avoided (an advantage also brought about by a tariff). Since shortages will not be reflected by price rises, it will also appear that there has been no change in the cost of living and (with given money wages) no change in real wages. But this is an illusion, since, in Professor Swan's words " 'real wages' would have to be measured in terms of purchasing power over a basket of commodities consisting in part of empty import boxes, whereas actual wages would be spent on more expensive or less preferred home substitutes".[5] Only *if* profits are not taken, *if* trade unions are subject to the "cost-of-living index" or "empty box" illusion and *if* the fall in real wages which must necessarily be associated with a balance of payments improvement at full employment cannot be attained otherwise, is there some case for preferring import restrictions.

A further consideration is that import restrictions tend to be less on materials than on finished goods. So replacing the present set of restrictions with a *uniform* tariff will raise the Australian prices of imported materials (and lower prices of other imports). But contrary to general belief, this is desirable. It will encourage import-saving right down the line, to all the industries using imported materials. For example, petroleum products will be economized right throughout industry. Not only consumers but factories will be compelled to look for import substitutes.

One effect would be to impose a petrol tax quite distinct from the existing tax. The present tax is meant to be one instrument of public finance and to pay for roads and other costs due to our motor-car civilization (police, hospitals, etc.). Possibly it is more than enough for these purposes. But it may not be more than enough when the high import content in petrol is taken into account, justifying restrictions similar to those on other imports.

(2) *Wage Inflexibility and Unemployment*

Demand elasticities may be no guide to social benefits and costs because internal prices are not always flexible. Therefore, it might be argued, a uniform tariff will not necessarily discriminate among goods

4. This judgment is based on general observation. It finds some confirmation from B. M. Cheek, "Profit Margins and Wage Shares in Australian Manufactures, 1945-55", *Economic Record* August 1957. Mr. Cheek argues from a thorough statistical analysis that Australian profit margins have been influenced by the degree of import competition and by *expected* changes in the rate of imports (and import restrictions). While an argument that profits in protected manufacturing industry vary with imports does not necessarily prove that internal prices of the imports are flexible and that importers do "take" their profits, his general conclusion that "The balance of evidence would seem to lie in favour of demand-based pricing" (*ibid*, p. 204) is very relevant.

5. T. W. Swan, *A.N.Z.A.A.S.* Paper 1955, *op. cit.*

in the most desirable way. This problem arises mainly because of the downward inflexibility of real wages.

Suppose a tariff is placed on textile yarn, a raw material for cloth, the elasticity of demand for cloth being high. The tariff raises the price of yarn and hence cloth, reduces sales of cloth substantially, and causes unemployment of cloth-workers. Perhaps they can find jobs in other industries using raw materials having a low import content. But if the labour is immobile, the only way unemployment can be avoided is for wages of cloth-workers to fall; this would lower the price of cloth again and stimulate sales. With wages lower and the price of yarn higher, production will tend to become more labour- and less cloth-intensive. But if wages are inflexible downwards and do *not* fall, the tariff on yarn will have created unemployment in the cloth industry.

From this one might conclude that tariffs should not be placed on imported raw materials where these are employed in a fixed ratio with Australian labour and where this labour is immobile. So short-run deviation in certain cases from the uniform tariff principle might be justified. But for the longer-run it should be remembered that (a) Australian labour is pretty mobile, particularly immigrant labour, and (b) real wages *do* vary, mainly through changes in inducement margins and overtime.

(3) *G.A.T.T. Commitments*

Agreements under G.A.T.T. may prevent us from raising certain tariffs. One possibility is to attempt re-negotiating some of the agreements to allow for uniform tariff changes. The allowance would apply only to balance of payments difficulties—which would otherwise be handled by import restrictions. An alternative is that instead of a uniform tariff there might be an equivalent increase in the selling rate for sterling and other foreign currencies charged by the Commonwealth Bank (the extra profits being transferred from the Bank to the Treasury). This would in effect be a multiple exchange rate system.[6] Failing this, exemptions would need to be made for "bound" tariffs.

(4) *Speed of Effect*

In an emergency, it is said, the effects of a tariff are slow and cannot be precisely foreseen. In the short-term, import demand elasticities are low and a very high tariff would be needed to obtain a sufficient fall in imports.

But: (a) is it ever necessary to get immediate results, since our reserves need never be run that low, and (b) cannot rough results be foreseen on the basis of previous tariff experience, bearing in mind that the tariff can be altered if the forecast turns out wrong?

Furthermore, import restrictions usually surprise with the long time they take to work in an emergency. If the restrictions are newly imposed there are inevitable delays in establishing the administrative

6. The suggestion comes from Professor Arndt (*Voice*, June 1955). He has since pointed out to me that such a multiple rate might give rise to black-market deals between importers and exporters.

mechanism. Apart from that, allowances for contracts and hardship concessions of various kinds slow up the fall in imports.[7] These are expressions of the same underlying factors which reduce the elasticity of demand in the short-run and thus slow up the effectiveness of tariffs. For a low short-run demand elasticity simply means that traders find it inconvenient to cut down imports quickly.

Not only can import restrictions be as slow as tariffs in their effects on imports but a forecasting problem also remains. It is difficult to foresee the need or pressure for hardship allowances, and the rate at which licences (usually valid for some time) will be used up.

A Variable, Uniform Tariff

The best policy would be to vary the uniform tariff with the balance of payments situation, an approximation to a flexible exchange rate.

Whenever the balance of payments gives signs of trouble, it would lead to speculative over-importing, just as the expectation of tighter import restriction does. But there would be less speculation than when a depreciation is expected, for there would be no motive for short-term capital movements or for lags in payments for exports. Furthermore, advance payments for imports would be replaced by advance *arrivals* of imports; stocks of imported goods would be built up rather than credits with overseas suppliers. The availability of finance is a limit to both forms of speculation, but the inconvenience of excessive stock-building is an additional deterrent in the case of tariffs or import restrictions. And it would be easier to obtain detailed statistics of stock-building than of advance payments to overseas suppliers.

On the other hand, while preferable to a flexible exchange rate, a tariff does not provide the same *absolute block* to imports as do import restrictions. At times when full employment expenditure overshoots into excess demand, import restrictions might force the excess into temporary savings; reliance on a tariff would allow it to overspill into imports, unless the tariff were raised quickly and adequately. So, the replacement of import restrictions by a tariff requires either a lower average level of expenditure, and hence some unemployment in the off-years, or higher international reserves to absorb the over-spill shocks. Australians would not choose the unemployment, so finally, replacing import restrictions with a variable tariff would require a higher average level of reserves, the cost of which must be weighed against the various disadvantages of import restrictions.

III

Is There a Case for Discriminatory Tariffs?

Suppose we use a uniform tariff together with fiscal and monetary policy to maintain full employment and balance of payments equilibrium. Is there then any need for special tariffs for particular indus-

7. This was borne out by the experience of Australia in 1955 and, to a lesser extent, Britain in 1952.

tries? Is there any reason why the tariff on motor-cars should be higher than on hats, or why the tariff on one type of paper should be higher than on another? This brings us to aspects of the traditional tariff controversy.

The question is limited by the statement of the problem. We are not concerned with tariffs versus depreciation or tariffs versus doing nothing at all. The issue is simply: should the tariff be discriminatory or non-discriminatory? So two familiar arguments for the Australian tariff are put outside the discussion, (a) that it keeps up employment or provides employment for a growing population, and (b) that it redistributes incomes in favour of producers of goods competing with imports against export producers.

Let us consider the few arguments for discriminating tariffs having a possible validity.

The Infant Industry Argument

If the candlestick-makers go to the Tariff Board and say: "We would make losses for five years without a tariff, but after that we will be able to compete", the Board should reply: "If you are so sure of your competitiveness five years hence, why don't you go to the capital market and raise funds to cover your initial losses? That is what you would do if you wanted to compete against existing Australian firms. Why should you make the candlestick consumer a compulsory shareholder (with no control or return guaranteed) in your business?"—"But the market would not lend us the money."—"Wouldn't they believe you?"—"They don't look that far ahead."—"So there is something wrong with the capital market? . . . and many of you people asking for tariffs are big enough to get whatever capital you want, often out of your own reserves."—"Then what about John Stuart Mill and all the textbooks since?"

Here the applicants ought to be reminded that the textbook case for infant industry protection requires proof of *external* economies, and that these must be larger than the external economies which would arise if the same resources were employed in the uses into which they would naturally flow with a uniform tariff.[8] Such external economies do develop with the general growth of an industrial structure, and provide sometimes a case for protecting industry relative to agriculture. There is rarely much case for protecting one industry rather than another, and when a country is already highly industrialized it is doubtful whether even a general growth in industry necessarily creates

8. When one particular firm raises the scale of its output and this directly reduces its *own* costs of production, then there are *internal* economies of scale. If, on the other hand, it helps to reduce the costs of other firms, or if it contributes its little share in reducing the general costs of industry without this having any perceptible effect on its own costs, then there are *external* economies. External and internal economies are defined here in relation to the *firm*, not the *industry*. Thus economies might well be internal to an industry but if they are external to the firms making up the industry there will be a possible case for protection. For a more precise discussion of external economies see H. W. Arndt "External Economies in Economic Growth", *Economic Record*, November 1955.

more external economies than diseconomies.[9] Proof of *internal* economies—that costs will fall either with time or with increasing output—is no valid case for protection.

But suppose it were. Then the case would be for temporary protection only. So the tariff should be a sliding one, to make sure the infant either grows or dies. Right from the beginning the duty would be announced as 20 per cent (over and above the uniform duty) the first year, 15 per cent the second, and so on. Any particular infant industry tariff would disappear in the process of time. Firms whose costs do not fall in time would find its shelter insecure.

The Terms of Trade Argument

To doctor the terms of trade, higher tariffs should be placed on those imports whose landed prices would fall (or fall the most) in response to the tariff. In fact our import prices are unlikely to be much affected by our trade policies; where they are it is usually a case of monopolistic selling,[10] and it is then that foreign exporting interests put up the strongest case to the Tariff Board against tariffs. Present tariff-making policies do not appear to follow the terms-of-trade rules (and it is not suggested here that they should).

Distribution of Income

A tariff above the average on motor-cars and below average on hats redistributes incomes in favour of motor-car producers and hat consumers. It is difficult to see any particular pattern of redistribution, except that large firms or well-organized industries are more likely to approach the Tariff Board than the small and divided. On the other hand it is possible that present tariff policy tends to level out profit differentials. Suppose the general Australian cost level rises relative to foreign costs. One firm after the other approaches the Board for help. Who will come first and who is likely to be the most successful pleader? Is it not the firm which was operating on a small margin of profit to begin with and would go out of business if it does not get help? In the short-run this may be the firm with the highest elasticity of supply for a price fall (a small price fall and production ends), and this type of discrimination may not bring about a great divergence from the equilibrium which would result with a uniform tariff. To take an extreme case, if firm X has a zero supply elasticity (no change in production due to a price fall) and firm Y a positive supply elasticity, the effect on the pattern of production of a uniform 10 per cent tariff

9. The true relevance of the infant industry argument in Australia is not to the general growth of the industrial structure but to decentralization. Infant industry subsidies might well be justified to attract industry from our sprawling capital cities to country towns. But the industrial growth of a country town has to be sufficient for the resultant external economies to reduce the cost level so much (and provide a sufficiently varied labour supply) for the industries eventually to stand on their own feet (and, strictly, to repay the original subsidies). Probably industrial trading estates are a better technique than direct subsidies.

10. These include the cases, mentioned earlier, where import restrictions worsen the terms of trade.

and of a 10 per cent tariff just for firm *Y's* product would be the same. But in the long-run a high initial profit level and high reserves are not necessarily correlated with low supply elasticities, and this type of *ad hoc* tariff-making leads to a result very different from that of a uniform tariff.

Import restrictions usually have more logical implications for the distribution of income than discriminatory tariffs. A restriction above the average for motor-cars and below the average for hats may imply not that the demand for motor-cars is more elastic, but that hats are poor men's and cars rich men's goods. To get the same effect when tariffs replace import restrictions, the tariff rate should be higher on cars than on hats. But why should import restrictions or tariffs be used as devices for redistributing incomes in this way? The logic is that removing a balance of payments deficit means a fall in the community's real income, and this fall should be spread not randomly (depending on who happens to consume imports) but on the progressive tax principle. The objection is that (a) there are less distorting ways of taxing progressively and (b) except in the very short-term, the effect is not only that car consumers lose more than hat consumers, but in addition real income is redistributed arbitrarily in favour of Australian car producers relative to hat producers.

Dumping

Dumping may mean export sales at prices below sales to the home market. When Australia does this we call it a home-price scheme. This kind of dumping is often—as in France and Australia—part of a substitute policy for depreciation of the exchange rate. If the French ceased to subsidize their exports and restrict their imports, and really devalued instead, we would find their wheat competition just as hard. No objection can be taken to it and it provides no case for protection. If the Japanese are prepared to sell us their products cheaply, we should be glad of it. It is of no real interest to us at what prices they sell the same products to their own people.

On the other hand dumping may mean *temporary* export sales at low prices; this is not necessarily associated with these prices being below home-market prices. If the low prices are due to an exceptional harvest, there is no objection; the goods must be sold and competitors can alleviate the effects with stabilization schemes. But if they are designed to kill competition, and that done, will be raised again, there is a case for anti-dumping duties. Temporary dumping, whether by lower prices or improved quality of products, is a familiar device of monopolies. One wishes there were some way of dealing with it in internal trade.

Defence

The last resort argument for protection, though economists usually steer clear of it, is one which ought to be subject to as close a scrutiny as the strictly "economic" ones. Here there are just two reminders:

(a) the issue at this stage is the *pattern* of manufacturing industry, not its total size, and (b) it is the strategic situation of 1958 which is relevant, and in particular one must ask what prospects there are of another prolonged siege. And if a defence argument then remains should not the protection be given by bounty and charged up to the defence vote?

Conclusion—The Case Against Discriminatory tariffs

There seems very little economic foundation for putting a high tariff on one good and a low tariff on another in present Australian circumstances. What then are the principles the Tariff Board applies? If an industry is found to be efficient, is that a case for saying it does not need a tariff, or for giving it a tariff so that its profits can be even higher? (Or is there some optimum degree of inefficiency?) One senses that there is a Tariff Board sense in which a firm can be both efficient and in need of tariffs (above the average), and it is this concept which needs spelling-out.

The Board concerns itself with relative levels of costs in Australia and supplying countries. To what extent is this an attempt to grope for a proper average tariff, on the lines discussed above, and to what extent does it suggest a query about the law of comparative costs? Suppose a product is produced in Australia at a cost higher than the price of imports, the cost including a reasonable rate of profit and return on capital invested. The higher Australian price may be due to (i) a higher general cost level, (ii) higher *particular* costs—e.g. the particular labour required may be more expensive or less efficient, or raw materials may be dearer, (iii) inability to benefit from economies of large-scale, or (iv) relative inefficiency of Australian management. Cost comparisons with overseas firms seem to aim at isolating (iv) so that the tariff can offset (i), (ii) and (iii). But the correct principle is to offset only (i).

The strongest objection to the present system of tariff-making is not that its economic logic may be in doubt or that it brings about an arbitrary redistribution of income, but that it is detrimental to efficiency and one element in our pressure-group society. When a firm is not doing well, instead of being forced to reduce its costs or improve its product, it has the more fruitful avenue open to it of stopping or hindering its competition. The energies which might better go into competing on an economic basis are put into pressing for higher protection. It is true that the close examination made by the Tariff Board seems to be some safeguard against this. Indeed the most important function of the Board may be to do the job which Monopoly Investigating Commissions of various kinds do in other countries, and a more direct re-assessment of its functions along these lines might be a logical development. But the question remains whether the monopoly-*creating* effects of the tariff are sufficiently balanced by the monopoly-*controlling* effects of the Tariff Board.

A Sliding Tariff?

There is something to be said for an infant-industry tariff sliding downwards automatically with the efflux of time. Similarly there is a case (developed above) for a uniform tariff varying with the balance of payments situation. But nothing can be said in favour of tariffs for particular industries which vary automatically with the volume of imports or the share of imports in the Australian market. Such arrangements to offset automatically changes in comparative costs deprive Australian industry of any incentive to maintain or improve efficiency, deprive the Australian consumer of the benefits of productivity improvements abroad, and induce foreign exporters to raise their prices in anticipation of the increased tariff.

Country Discrimination

At present our tariff discriminates as between Commonwealth sources on the one hand and all the rest on the other. Import restrictions discriminate as between dollar and the rest. If our tariff and import restrictions system were amalgamated into one system there would have to be at least four categories—Canada, other dollar, Commonwealth (excluding Canada) and the rest. Until the Japanese Trade Agreement last year we also discriminated against Japan in both our tariffs and import restrictions, so until then there would have had to be five categories.[11]

There are two valid motives from Australia's point of view for *country* discrimination—Fair Exchange and Monetary.

(1) Preferences to Britain's imports may be justified if the Fair Exchange is adequate preference for our exports in her market. But the import preference in itself is a cost to us; it worsens our terms of trade since it prevents us buying in the cheapest market. Apart from our sugar and fruit-growers few will agree that the gains to us from Commonwealth preference outweigh the losses.

(2) Australia's direct self-interest does not justify any *monetary* discrimination. Our sterling balances in London are fully convertible into any other currency—even dollar—and all we need do is watch these balances. Switching from dollar to sterling imports will not raise the balances; in fact it will lower them since any switch induced by tariffs or import restrictions will raise our import costs.

The monetary motive for discrimination only arises once we recognize our responsibility for the sterling area's gold and dollar pool. This may justify discrimination as between sterling and non-sterling imports, depending on the state of the common reserves. But one fault of the sterling area system is that there is no built-in incentive for the members to discriminate in the common interest, any discrimination being contrary to a particular member's direct self-interest (other than Britain, the banker, who takes all the buffeting).

11. While there is no longer any formal discrimination against Japan, there is the *threat* of discrimination if imports from Japan become too large. The informal or "threat" technique may have effects similar to formal discrimination.

There is even in that case only limited monetary ground for discriminating as between different non-sterling sources. A good part of sterling held outside the dollar area finds its way into the European Payments Union where it is 75 per cent convertible into dollars. There is some basis for discrimination here, if the resulting increase in the total costs of our imports is worth the reduction in the dollar content of this cost. But sterling held by residents outside the area is also convertible into dollars on the foreign exchange markets at only a slight discount. The value of sterling is maintained on these markets through deliberate Bank of England policy. The discount is hardly great enough to justify any discrimination against dollar goods.[12]

But beyond (a) Australia's direct self-interest (calling for *no* discrimination) and (b) the sterling area interest (calling for discrimination primarily against non-sterling imports as a whole), there is (c) the world interest, requiring the minimizing of trade restrictions all round for balance of payments reasons. This requires us to discriminate on the basis of each country's overall balance of payments situation.[13] We would normally discriminate most against the dollar and the D-Mark, and most in favour of France, Japan and (at present) New Zealand. An efficient international monetary system would provide some incentive for individual countries to discriminate in this manner.

It is difficult to see any economic justification for discrimination against Japan. There was a time when the sterling area was in bilateral deficit with Japan, when these deficits had to be settled in dollars, and when sterling held by other non-sterling countries was *not* convertible into dollars. Then it was correct to discriminate against both the dollar *and* Japan. Now the sterling area is in surplus with Japan and we can lose dollars through imports from any non-sterling source. Furthermore, Japan, being a country which has difficulty in balancing her payments, ought to be discriminated in *favour* from the cosmopolitan viewpoint. In addition Japan happens to be a particularly good customer of ours, and we would be a beneficiary from her prosperity. So we have every economic motive for being pro-Japan in international counsels. Discrimination against Japan has been justified for protective reasons. This means we buy in dearer markets so as not to under-sell our home producers. It is a technique of protection which worsens our terms of trade, at least on the side of imports. Is it not better to buy

12. Furthermore, is it right for Australia to discriminate when other important members of the sterling area do not? On the one hand, a temporary improvement in the sterling area's reserves due to Australian discrimination may be offset by relaxation of dollar controls on the part of other countries. On the other, in so far as discrimination is a necessary sacrifice, moral (or "international distribution-of-income") grounds may justify Australia making greater sacrifices than (say) India.

13. The theory underlying this cosmopolitan criterion originated with Professor Ragnar Frisch ("On the Need for Forecasting a Multilateral Balance of Payments", *American Economic Review*, September 1947) and Mr. J. M. Fleming ("On Making the Best of Balance of Payments Restrictions on Imports", *Economic Journal*, March 1951), and is set out most thoroughly in J. E. Meade, *Trade and Welfare*, Chapter XXXIV.

from the cheapest market and use a non-discriminatory tariff to keep the home producer in business? It provides a gain to the Treasury and no loss to the Australian producer or consumer (the loss being to the former British supplier).

More generally, discrimination against imports from Asian countries is a particularly undesirable policy. Such discrimination is usually founded on the "cheap labour" argument. But, as has been pointed out above, such discrimination, whether on the basis of products or countries, is not even in the Australian interest. If we can obtain certain goods cheaply from abroad, we should be delighted; if it means that Australian industries depending primarily on unskilled or semi-skilled labour will find it hard to compete, this reflects the unsuitability of the Australian environment for these particular industries. But more important, such discrimination makes it more difficult for Asian countries to develop their economies on the basis of foreign trade; it can negative all the benefits of generous aid programmes.

IV

Exports and Depreciation

The case for depreciation as a device for improving the balance of payments, relative to tariffs or import restrictions, is that it encourages exports as well as cutting imports. A 25 per cent uniform tariff combined with a 25 per cent uniform export subsidy would yield the same result as a 20 per cent depreciation.[14]

Can we imagine what such a uniform export subsidy would do? To begin with we must assume that it would replace all existing export subsidies and home-price schemes. At present exports of dairy products, sugar, dried fruits, and some minor items are subsidized, directly or indirectly. Wheat benefits from low railway charges and is drawing on a government-guaranteed stabilization scheme this year.[15] On the whole it is the labour-intensive agricultural industries which have suffered most from the tariff-import restrictions policy and which get the most assistance.[16] It seems probable that if a uniform export subsidy replaced all existing export subsidies, a significant stimulus would

14. . . . apart from the effects on invisibles and the capital account. By failing to depreciate, and taxing imports and subsidizing exports instead, invisible imports are over-encouraged. Professor Meade (*Economic Record*, November 1956) has given the example of freight rates. A depreciation would reduce freight rates on coastal shipping relative to sterling freight rates from London; thus it would help to divert Western Australian demand on to the manufactured products of the Eastern States shipped in Australian ships. A depreciation would also reduce the sterling (or dollar) value of profit remittances on foreign investment in Australia.

15. In addition, meat is subsidized by Britain as a result of the 15-year Meat Agreement, part of our sugar exports are subsidized by the British consumer through the Commonwealth Sugar Agreement, and certain products (sugar, dried fruit, canned fruit, canned beef, apples) benefit effectively from Preference. But these schemes need not necessarily be replaced by a uniform export subsidy, although the uniform subsidy would certainly make the industries less dependent on them.

16. See I. Shannon, *Rural Industries in the Australian Economy* (Cheshire 1955).

be provided only for wool, wheat and meat. The effective subsidy for dairying would actually fall, suggesting that this industry is too labour-intensive for Australia.

The question then remains whether increased returns to wool, wheat and meat producers would (a) lead to increased output, which (b) could be sold without undue fall in prices. If so, then a uniform import tariff cannot be regarded as a sufficient long-term balance of payments device. It would unduly deprive us of the benefits of international trade. It ought to be supplemented by suitable measures to encourage exports.

It is probable that, taking a long view, production of rural products would respond to higher prices and (with limited exceptions) could be sold without severe price drops. An assessment of the price elasticities of demand and supply of our exports must be one of the main elements in forming a suitable trade policy. Here only a few queries can be raised: (a) Does not recent experience suggest that the long-term supply elasticity of wool is high? Prices rose in 1950-1 and several years later output increased sharply. The question is how much of this rise in output was the result of rural investment by graziers of the high earnings of earlier years, and how much was due to myxomatosis and the development of new methods of pasture improvement. It seems that self-financing makes long-term supply elastic.[17] (b) Taking into account the synthetics-research effect, and more generally the increased scope for substitution between fibres, is not the long-term demand for wool elastic? (c) Is there not scope for increased earnings from wheat not just by improving the yield per acre (and ruling out increased acreage), but by improving the quality, grading, etc., all of which might become economical with higher prices?

If higher returns to some primary producers would *not* lead to substantial rises in output, or if the extra output could only be sold at much lower prices, there would be no point in an export subsidy. A devaluation would in those cases have to be associated with an offsetting export tax. This tax would forestall an unnecessary income redistribution. But it is justified only if (a) primary production is not very responsive to higher returns, or extra output could not be sold

17. We have been taught in the textbooks that the supply curve has an income and a substitution element. A rise in prices represents a rise in real income; some of this will be taken out in increased leisure, so that the income effect of a rise in prices leads to a fall in output. On the other hand the substitution effect raises output, how much depending on the scope for substituting one product for another in production. The substitution effect makes the supply curve elastic, and the income effect inelastic (or, taken by itself, gives it a negative elasticity). It is a familiar argument that the income effect in agricultural supply is high so that agricultural elasticities are low or even negative (e.g. Australian wheat in the depression). But is not there also a *long-term* income effect which *raises* the supply elasticities? High incomes due to high prices mean high savings; high savings are eventually invested and so lead to higher output. The crucial link in the chain is that the savings are invested wholly or mainly in the same industry. So there needs to be some imperfection in the capital market. Behind it is the same cause as underlies the low substitution effect—immobility of factors of production, whether existing or new.

readily, and (b) the relative incomes of primary producers are already adequate.[18, 19]

Perhaps the most important effect of using tariffs and import restrictions rather than depreciation as balance of payments devices is that exports of manufactures are discouraged. In spite of the opportunities which seem to lie in South-East Asia and spasmodic official campaigns, it is improbable that our exports can make much progress until our relative cost level is brought into line. This is the strongest single argument in favour of depreciation. More and more the issue turns out to be not manufacturing *versus* rural industry, but what the appropriate pattern of manufacturing industry is to be. Manufacturing countries are the greatest traders, and one can visualize the export of capital-intensive cars and steel, and the import of labour-intensive textiles, fancy-goods, and the like. By the failure to depreciate we deprive ourselves of the benefits of this sort of division of labour. This aspect is connected with the infant-industry argument. On the one hand restriction of imports develops manufacturing industry for the Australian market, and assuming industrial costs do fall with time and scale, makes it eventually better able to compete on export markets. But on the other hand entry into South-East Asia also yields increasing returns and the later we make the entry the more likelihood there is of letting others reap the benefits of growing markets. Which of these effects is more important?

V

Policy

We can conclude with a set of simplified recommendations following logically from the above discussion.

Step I. Assimilate the import restrictions system in the tariff system by gradually replacing import restrictions with tariffs.

Step II. Establish a standard tariff rate to begin with (say 20 per cent), and gradually bring up the low tariffs and level off the high ones, until finally (with some exceptions) a uniform tariff operates. Most of the tariffs replacing import restrictions could from the beginning be at the standard rate. All the exceptions should be quoted as margins above or below the standard rate. Valid grounds for such exceptions, applicable in limited cases, have been discussed

18. The Australian tariff traditionally is a method of "painless extraction" which keeps down land values and redistributes incomes from primary producers towards the urban sector. (See J. B. Brigden and others, *The Australian Tariff—An Economic Enquiry* (M.U.P. 1929) and A. J. Reitsma, "Trade and Redistribution of Income. Is There Still an Australian Case?" *Economic Record*, August 1958). But this is an argument only for a *uniform* tariff (not for particular tariffs), and it comes down to the same as arguing for devaluation plus a uniform export tax, except that the tax may not be politically painless.

19. Suppose we used some of the revenue from the export tax to subsidize rural investment. Then a stimulus to rural output might be obtained without making primary producers wealthier first. But will primary industry then become too capital-intensive, or will the investment subsidy only offset present imperfections in the capital market?

above. Tariff Board reports should be expected to justify these margins. Where + margins for infant-industry reasons remain (and few really should) they should be converted into sliding rates.

Step III. Vary the standard tariff rate with the balance of payments situation, remembering that reserves should cope with really short-term deficits.

This may be enough to begin with. And if a flexible, uniform tariff is *more* than can be stomached, a guide to tariff-making still emerges: There is a basic, though variable, tariff rate which offsets the higher general level of Australian costs, and deviations + or — from this rate require specific justification.

Though quite radical in their implications, these suggestions are only a second-best. They assume realistically that devaluation is not in the political vocabulary. But perhaps it should be put there, and we can go on to

Step IV. Gradually even out existing export subsidies (direct and indirect) and bring them to a standard rate. This will require a survey of methods of subsidization, and reorganizing these methods to put them on comparable bases.

Step V. If, after a time, the balance of payments situation seems to continue to require a substantial uniform tariff and export subsidy, then one day (a) remove the uniform tariff and export subsidy, (b) place an export tax on wool and any other products, to the extent that they had not received a subsidy to begin with and are not considered to need one (due to low elasticities or distribution-of-income effects) and (c) depreciate. Variations in a uniform tariff could still be used to deal with middle-term balance of payments difficulties, adequate reserves coping with short-term ones.

This is the step-by-step approach to the economic optimum. The alternative is to take the last steps by storm first. If the present disequilibrium in the balance of payments is recognized as fundamental, then depreciate *first*, and at leisure adjust the tariffs and remove the import restrictions and export subsidies. Unnecessary income fluctuations and later protests would be avoided if any export taxes were imposed simultaneously with the devaluation. Logically, the uniform tariff rate (towards which individual tariffs would be gradually adjusted) should be somewhere near zero, ready to be raised for middle-term difficulties. But near-Free Trade seems an even more difficult proposition than a uniform tariff, and a practicable policy might be (a) to devalue sufficiently for import restrictions and export subsidies to be removed, and (b) to work towards a uniform tariff somewhere near the *average* of present tariffs.

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THE PROSPECTS FOR COLLECTIVE BARGAINING IN AUSTRALIA

In recent years, the desire to "work outside the arbitration system" appears to have strengthened in trade union circles.[1] This is not surprising. Since 1953, the average level of real wage rates has virtually stood still and the real basic wage has fallen by nearly 5 per cent. Moreover, recent federal basic wage judgments give unions little hope of a brighter future. The system of automatic cost-of-living adjustments has been firmly rejected; and the general tone of the Commonwealth Arbitration Commission's judgments is one of caution and conservatism in wage adjustments. Understandably enough, the predominant principle of wage policy in both inflation and recession is wage restraint. As the Australian economy is likely to be tending towards one or other of these situations all the time, and, with continued economic development, towards inflation most of the time, the concern of trade unions for the future can well be appreciated. Discontent with wages is strongly reinforced by bitter opposition to the punitive powers of the Commonwealth Industrial Court and to increasing government intervention in the internal affairs of unions.

However, there are reasons for believing that the dissatisfaction of the trade union movement with the arbitration system probably goes a little deeper than all this. There appears to be a growing conviction, perhaps not as clearly and as strongly articulated, that "free"[2] collective bargaining provides more positive inducements for better industrial relations.[3] Collective bargaining arrangements have, of course, operated for many years in a number of industries[4] in Australia even though in most of these the awards of industrial tribunals have formed the basis of agreements. It would be surprising indeed if Australian trade union leaders and employers[5] were altogether oblivious of the virtues of a system of wage determination which is highly prized by both unions and management in the United Kingdom and which, in the United States, the parties are required to use by law.

Do these signs portend any significant change in our system for settling industrial disputes? What are the prospects for a widespread

1. See, for example, *A.C.T.U. Bulletin*, Vol. 4, No. 1, p. 1; Vol. 4, No. 2, p. 4.
2. "Free" in the sense of not being subject to compulsory arbitration in the manner of the Australian system. Henceforth "collective bargaining" will denote "free collective bargaining" in this sense.
3. See H. J. Souter, "How Do Australian Industrial Relations Compare with Other Countries" in K. F. Walker (ed.), *Unions, Management and the Public* (University of Western Australia Press, 1955).
4. The Broken Hill metal mining industry is one of the best examples. (See K. F. Walker, *Industrial Relations in Australia* (Harvard University Press), 1956, Chapter IV.) Others are in paper manufacturing, newspaper printing, brewing, and more recently, in building and construction. In the latter, collective bargaining agreements were introduced by American construction companies. Since 1956, an agreement has operated between a number of unions and employers' associations in the building industry in the Greater Melbourne area.
5. D. G. Fowler, *The Employers' Review*, Vol. 29, No. 5, October 1957.

extension of collective bargaining? What is the case for more collective bargaining in Australia? The last question will be considered first.

II

Collective bargaining is the method of fixing the terms of employment and settling grievances arising from those terms by *negotiation* between union(s) and employer(s). It is understood that both parties reserve the ultimate *right* to use economic coercion through strike or lockout. Indeed, this understanding may be an important factor in stimulating the parties to an agreement. The use of third party intervention through mediation and conciliation to assist in the settlement of the dispute is consistent with collective bargaining since the terms of settlement are still by agreement of the disputing parties. There is, to use the popular phrase, a "meeting of the minds" of unions and employers. Under arbitration, on the other hand, the third party determines the terms of settlement. He makes a ruling or an award which, however, need not be acceptable to the disputing parties. There need not be a meeting of the minds. Nevertheless, voluntary arbitration, at least on the interpretation of the terms of an agreement, may still be compatible with collective bargaining in so far as both sides voluntarily agree to bring differences on specific issues before the arbitrator and to be bound by his award. Compulsory arbitration, however, falls more in the category of government regulation because not only are the disputing parties compelled to meet the arbitrator, but they are legally bound to accept his award on any disagreement between them. Compulsory arbitration is a negation of collective bargaining; and, therefore, the case for collective bargaining may be viewed as the case against compulsory arbitration.

What, then, are the disadvantages of compulsory arbitration as compared with collective bargaining?[6] These are to be found both in the *process* by which the terms of settlement are reached and in the *nature* of the settlement. Under compulsory arbitration it is the business of each of the disputing parties to impress a third party with the strength and justice of its claim. For tactical reasons, it is usually desirable for each side to take an extreme position and to stand by it. This process tends to exaggerate the differences between the parties, and, specially when they are represented by lawyers, to discourage any need for closer and constructive understanding of each other's problems.

The process of collective bargaining, on the other hand, is one of negotiation between the parties, if necessary, assisted by a conciliator.

6. Professor Walker (*op. cit.*, p. 13) has warned against discussion of compulsory arbitration as if it operates in a vacuum. True, the value of compulsory arbitration will depend on the environment in which it operates; and the environment itself may be influenced by the existence of compulsory arbitration. But there is much to be gained by analysing *in vacuo* the different methods of settling disputes. To agree, for example, that compulsory arbitration has certain undesirable features does not necessarily mean that it should be avoided in a particular situation, or that it is not the best possible arrangement.

The parties deal with each other and must impress each other both with the merits of their respective claims and their strength to stand by them. It is a process not only of mutual coercion but also of mutual enlightenment. Concession is made in return for concession, emphasizing the mutual dependence of the parties. The object of negotiation is to narrow differences and thus to reach a mutually acceptable settlement.

But arriving at the terms of employment is less than half the problem of industrial relations. These terms must be administered and interpreted in the day to day relationship of the parties. It is here that the *nature* of the settlement is significant. Under compulsory arbitration the settlement is by a legally enforceable award. This award results from the deliberations of the third party on the claims and counterclaims of the disputing parties, who are, however, not answerable to their constituents for the terms of settlement. Nor are they responsible to each other to ensure that these terms are harmoniously carried out. It is the responsibility of the law through tribunals not only to make the terms of employment but also to enforce them, if necessary. The parties are not bound to approve the award. The most that can be expected of them is that they will resign themselves passively to accept the arbitrator's ruling. It is thus not the responsibility of trade union leaders to allay any discontent among the rank and file about the award. Indeed, they may well find it expedient to accentuate discontent in order to strengthen their hold on the rank and file. On the other side, management is entitled to insist on the letter of the award being observed, to apply it ruthlessly and to ask for legal sanctions for any breaches of the award.

This state of affairs contrasts sharply with the nature of the settlement arrived at by collective bargaining. The settlement here is by agreement. The agreement is the product of negotiations carried on by the disputing parties, on whom rests the responsibility for the agreement. Each is expected to honour the terms of the agreement and to ensure their observance by its constituents. Moreover, it is the responsibility of both parties to settle grievances arising in the course of the agreement, which may even include a formula on the procedure to be followed for settling these grievances.

In practice, these contrasting features of compulsory arbitration and collective bargaining may not apply with such sharpness in all cases. Nevertheless, the outstanding difference between compulsory arbitration and collective bargaining is in the degree of responsibility imposed on the union and management for the settlement of disputes and for the manner of observance of the terms of settlement.

Three other weaknesses of compulsory arbitration should be noted. First, while collective bargaining assumes that the right to strike or to lockout must be conceded, compulsory arbitration assumes that these rights do not exist. In practice, of course, these rights are exercised even under compulsory arbitration, and the law must punish offending parties or close its eyes to such offences. The latter course is in most

cases expedient but legally anomalous. The former is legally proper but in its effect on industrial relations, anomalous, because the normally accepted notions of crime and punishment are not applicable in industrial relations. The right to strike, for example, is the very basis of trade unionism. A blanket denial of this right is regarded as a threat to unionism itself. Punishment for the exercise of this right may reduce the incidence of strikes but it will certainly accentuate industrial unrest. For after all, the relationship between union and management does not end with the imposition of punishment. Both must continue to work with each other. This is the dilemna which faces compulsory arbitration and which is one of its notable weaknesses in practice.[7]

Second, the high costs to the parties, and hence to the nation, of arbitration proceedings. This is a feature of the Australian system with its extensive use of legal procedure and personnel, but it is not a necessary feature of compulsory arbitration. The high degree of legalism associated with the Australian system results partly from the constitutional problems of Australian federalism, but also from the view that industrial problems should be solved by legal procedure.

The third difficulty concerns the competence of a third party, an outsider, to take on the task of fixing the terms of employment. The dominant legal basis of Australian arbitration, as has just been suggested, may be ascribed partly to the belief that the judical process is applicable in industrial matters. Certainly, the *interpretation* of the terms of employment lends itself to a judicial process and as such it does not require a first-hand and deep knowledge of the economic and technical circumstances of the firm or industry. It is sufficient for the third party to examine evidence presented to him by the disputing parties and, on this basis, to make his judgment.

The *making* of the terms of employment, however, is a very different matter. It is a legislative rather than a judicial process. Under collective bargaining, the terms are arrived at by pressure, compromise and self-interest. But a competent "legislative" arbitrator must in the first place be as familiar with the economic and technical aspects of the industry as the disputing parties; secondly he must be able to formulate clear-cut principles on which to base his award; and thirdly, he must be able to apply these principles consistently and unequivocally to arrive at the "right" and "just" award. Even if the first requirement is fulfilled, it is doubtful whether the last two will usually be satisfied. It is for this reason that we may expect the decision of a wise "legislative" arbitrator to be based on a shrewd assessment of an acceptable award, a compromise decision close to what the disputing parties themselves

7. "The problem to be solved, either as a matter of theory or as a matter of practical necessity, is at bottom always and everywhere the same. How can the right of combined action be curtailed without depriving individual liberty of half its value; how can it be left unrestricted without destroying either the liberty of individual citizens or the power of the Government?" Dicey, *Law and Public Opinion in England, 1919* quoted by C. O. Gregory, *Labor and the Law* (Norton, New York), 1949. These questions deserve more attention than they have received in Australian industrial legislation.

would have reached, with the difference, of course, that the latter do not in this case bear the responsibility for the decision. The practice of Australian arbitration tribunals of giving lengthy reasoned judgments for their awards is a pretentious and inappropriate application of judicial practice to legislative action.

A feature of Australian arbitration is the emphasis on "the public interest". In so far as the public interest means a mutually acceptable and speedy settlement of the dispute, a compromise decision should be the objective of the arbitrator. But arbitration authorities have in recent years added the over-riding condition of consistency with the public interest. If, for example, a wage increase is likely to generate inflation, it is not regarded as being in the public interest and, therefore, it should not be awarded. Tribunals have refused to accept for registration as consent awards agreements freely entered into by unions and employers on the grounds that they might stimulate wage demands elsewhere and add to inflation.[8]

Whether this is an appropriate role for industrial tribunals entrusted with the task of preventing and settling industrial disputes is a debateable question. There are good grounds for believing that the "public interest" principle will not prevent general wage increases from taking place if effective demand is at an inflationary level. What it will do, however, is to produce inequities in the wage structure between those industries which stick to award rates (mostly government authorities) and those which pay in excess of award rates. The weapons of anti-inflation reside in budgetary and monetary policies rather than with arbitration tribunals.

The case against compulsory arbitration then, is not that it conduces to high or low wages, but that it denies the main benefits of collective bargaining: the development of responsible action and a constructive relationship between union and management. It has, furthermore, certain inherent difficulties—the dubious use of legal sanctions, high costs of operation, and the competence of "outsiders" in the formulation of the terms of employment. It is possible that prompt intervention and the imposition of arbitration awards reduce the incidence of stoppages. But the state of industrial relations can hardly be assessed by the time lost in stoppages alone.

III

In view of these disadvantages of compulsory arbitration, should the provision for its operation be withdrawn entirely? Two problems arise. First, what if one or both parties prefer compulsory arbitration anyhow? The preferences of the parties are important but should they be the deciding factor of the form in which disputes are settled? If collective bargaining has basic virtues, should the parties not be in-

8. The outstanding case recently is the agreement in the building industry in the Greater Melbourne area which both Federal and State tribunals refused to accept for registration.

duced to use the process of collective bargaining? The second problem arises in connection with disputes or stoppages which create conditions of national emergency and, therefore, have a serious impact on the public interest. No responsible government could stand by idly in the name of collective bargaining. Even "free" collective bargaining must imply some limitation in the use of the weapons of economic coercion. Nevertheless, the manner of government intervention even in emergency disputes is important. In considering these problems, it may be instructive to analyse briefly the nature of the role of public intervention in disputes in the United Kingdom and the United States.

The rationale of government intervention in industrial disputes in the United Kingdom is not to prescribe and enforce the terms of employment but to provide a maximum inducement for the disputing parties to reach agreement by voluntary negotiation. This inducement arises from the flexibility and uncertainty of the form and timing of government intervention. There is no set ritual for government intervention either directly or through its agencies. Provision is made for conciliation, voluntary arbitration, the establishment of a committee of inquiry and even semi-compulsory arbitration (in the sense that the award is not legally binding on the parties). Where the institutional facilities for collective bargaining are inadequate, there is provision for the setting up of Wages Boards. But a great deal of discretion rests with the Minister of Labour. Neither union nor employer can be sure of government intervention and therefore each has a great inducement to find the accommodation in voluntary negotiation assisted perhaps by a conciliator.[9]

It is true, of course, that the nature of legal intervention in the United Kingdom has partly been influenced by the attitudes of unions and employers about the desirability of voluntary agreement.[10] But it is also a reflection of public opinion and government policy which has deliberately refrained from closer regulation of industrial relations,

9. "It is through the interposition of the Minister between the parties to the dispute and the Tribunal that the law gives effect to what have been called fundamental principles: the rule that autonomous machinery has priority over statutory machinery and that voluntary is preferable to compulsory settlement. If there is any chance of settlement through autonomous negotiation or arbitration, the Minister must refer the case to that machinery, and if he has done so without positive result he still has a discretion whether or not eventually to guide it into the channels of compulsory arbitration. If there is from the outside no prospect of autonomous settlement, he may still try voluntary settlement through statutory machinery, e.g. through his conciliation service, through the Industrial Court, through *ad hoc* arbitrators, or through the appointment of a committee of investigation or court of inquiry. . . . These provisions . . . have proved to be of outstanding importance for the shaping of industrial relations, in the course of the last thirteen years. As a result of their operation, compulsory arbitration has not in this country killed voluntary bargaining." O. Kahn-Freund, "Legal Framework" in A. Flanders and H. A. Clegg, *Industrial Relations in Great Britain* (Blackwell, Oxford), 1956, pp. 95-96.

10. In 1940, under emergency conditions, provision was made under Order 1305 for compulsory arbitration by agreement of the Trades Union Congress and the British Employers' Confederation. Again by agreement of these parties, the Order was modified in 1951, to remove any restriction on the right to strike or to lockout. (See O. Kahn-Freund, *op. cit.* p. 92.)

leaving it to economic and social pressures to exercise the necessary restraints on unions and employers.

The American scene presents interesting similarities and differences to the British. It is similar in its reluctance to impose governmental settlement on disputing parties. Ample facilities are provided for conciliation and voluntary arbitration, but even under conditions of emergency there is no provision for compulsory arbitration. The President has powers to intervene in emergency disputes, to order an 80-day injunction against a stoppage, to appoint a committee of inquiry and, finally, if no settlement is in sight, to order a strike vote of union members by secret ballot. If the vote favours strike action, a stoppage may take place. However, Congress may order the plants affected by the stoppage to be "seized" by the government. As strikes in government undertakings are illegal, the act of seizure is in effect an order to return to work. But no settlement is imposed on the parties who are expected to continue negotiations. The object of seizure is to relieve the state of emergency by the return to work but also by making conditions sufficiently irksome[11] for both unions and employers to provide them with the necessary inducement for a mutually acceptable agreement. But seizure is not lightly undertaken. The emergency must be real. Furthermore, like the British system the uncertainty of government intervention plays its part in inducing both sides in the dispute to continue negotiations.[12]

However, there is also an important contrast with the British system. Whereas British law does not require union and employers to bargain collectively, American law imposes upon both "the duty to bargain". Much of the intrusion of the government in industrial relations in the United States springs from this duty and its performance according to prescribed rules of fairness. The basis of this legal requirement is the need felt in the early Wagner Act period of the '30's by a government sympathetic to the ideals of unionism to break down employer opposition to collective bargaining; and later, in the light of experience, to impose under the Taft-Hartley Act, upon both unions and employers rules of fair conduct in collective bargaining. What has been described as a "shot-gun marriage" between labour and management clearly requires more extensive legal intervention to ensure its smooth operation than the voluntary acceptance of collective bargaining principles in the United Kingdom.

Nevertheless, the outstanding common feature in both countries is the need felt by the public and government for collective bargaining

11. The unions are deprived of the strike weapons; their claims may be left suspended and it has also been suggested that union dues may be placed in a frozen account. On the side of management, the prying presence of government officials in the plant, the possibility of price and profit control, may provide the inducement for compromise and settlement.

12. An outstanding application of the principle of flexibility and uncertainty is found in Massachusetts where the State law was formulated on the advice of Professor Slichter. See *Massachusetts Proposals for Better Industrial Relations: The Report of the Governor's Labor-Management Committee* (Boston: The New England Council, 1947).

but, more importantly, the provision of governmental machinery for settling industrial disputes which will not impair the prospects of the disputing parties reaching a mutually acceptable agreement.

An appreciation of this fact provides, by way of contrast, the key to an understanding of the sparseness of collective bargaining in Australia. The logical basis of the Australian system of compulsory arbitration is primarily the speedy "settlement" of industrial disputes rather than the encouragement of collective agreements. This attitude derives from the troubled years of the 1890's, when public opinion, greatly disturbed by lengthy stoppages in strategic industries, demanded government intervention to end such stoppages if necessary by the imposition of the terms of settlement. For a few years, there was virtually a breakdown in a few key industries in the relationship between unions and employers, the latter refusing to deal with unions and insisting on the freedom of contract. Under these circumstances, compulsory arbitration not only provided a means of settling disputes but also rehabilitated and stimulated unionism. The years following the New South Wales and Commonwealth Arbitration Acts saw a rapid development in the number and membership of unions. Australian governments could, of course, have taken the stand of the American government in the '30's when, under the Wagner Act, it compelled employers to recognize and to deal with unions. This would have been one way of assisting the growth of unionism and collective bargaining. Instead, they took the alternative step of intervening in disputes and freely imposing legally enforceable awards on the disputing parties, requiring at the same time that these parties be registered associations. Thus both the Wagner Act and the Australian acts were intended to develop collective bargaining. But while one was careful to avoid government agencies being drawn into prescribing terms of employment, the other freely provided government machinery for making and enforcing awards. The result in one was collective *bargaining;* in the other, industrial *regulation.*

The early Australian preference for speed in the settlement of disputes by imposing government awards can be understood and justified in terms of the long drawn out emergency stoppages with widespread economic loss and personal inconvenience, and with the very existence of trade unions threatened by the refusal of employers to take part in collective bargaining. Why, long after union and employers' associations had become firmly established, should this preference for compulsory arbitration have been maintained?[13]

Three points may perhaps provide some explanation. First, the existence of a morbid fear of stoppages in the public mind coupled with an inadequate appreciation of the virtues of collective bargaining. Second, the naive hope for a "new province for law and order" in

13. Under the 1956 Act, the Commonwealth Government appointed a number of conciliators who had powers of arbitration only by the consent of *both* parties in the dispute. This innovation has proved successful but, of course, so long as the other facilities of compulsory arbitration are readily available, conciliators will have very limited scope in the settlement of disputes.

industry through compulsory arbitration and the renunciation of the weapons of economic coercion. The failure of legal sanctions to prevent stoppages may have shaken but certainly not eliminated the widespread belief that legal processes are eminently suitable for resolving industrial conflict. And finally, the misguided belief that despite the provision for compulsory arbitration, parties are free to enter into voluntary arrangements. Indeed, the system provides that the resources of conciliation should be exhausted before arbitration is attempted.

This view misses two fundamental points. First, so long as both parties are aware that the facilities of compulsory arbitration will be readily available, voluntary negotiation and conciliation becomes, on most important issues, a formal and fruitless phase. The suspicion that the other party is likely to take the dispute up to arbitration will usually be strong enough to stifle any genuine negotiation.[14] And so long as the dispute falls within their jurisdiction, tribunals are not in the habit of creating doubts as to their readiness to arbitrate. The vital element of uncertainty, so much a feature of British and American practice, is virtually absent in Australia.

Second, the ready availability of compulsory arbitration has conditioned both unions and employers to the limited requirements of the system. There is no need for union or management to have a sophisticated understanding of the nature of industrial conflict and their accommodating role in this conflict. The industrial relations "expert" on the side of management is the industrial officer and his main task is to understand and apply the awards of tribunals. On the union side, this job is performed by the secretary. Claims and counterclaims, especially if they are important, and legal problems relating to the interpretation of awards—these are usually handled by lawyers employed for the occasion by union and employer. The art of collective bargaining is unknown and unnecessary.[15]

Thus the absence of any legal hindrance to collective bargaining and, indeed, even the earnest provision of conciliation, are not sufficient conditions for the development of collective bargaining so long as the facilities for compulsory arbitration are readily available to one or both parties in a dispute.

14. Cf. the frank admission of an employer representative: " . . . Reflect on human nature for one moment and it becomes obvious that the impelling desire to reach an agreement will not be present if one side feels it will be no worse off if the problem goes to arbitration, and indeed it might be better off". R. G. Fry in *Unions, Management and the Public,* K. F. Walker (ed.) (University of Western Australia Press, 1955), p. 32.

15. It has been suggested (O. de R. Foenander, "The Achievement and Significance of Industrial Regulation in Australia", *International Labour Review,* February 1957, p. 117) that the time for abandoning compulsory arbitration would be when employers and unions show a sufficient sense of responsibility. This argument overlooks the point that just as a muscle atrophies from want of use, so compulsory arbitration, by reducing the need for a sense of responsibility in industrial relations, inhibits the development of organization and skills necessary for the growth of collective bargaining. See Kingsley Laffer, "Australian Compulsory Arbitration", *International Labour Review,* May 1958, for a critical view of Dr. Foenander's article.

We may now return to the two questions posed at the beginning of this section. What if both parties prefer compulsory arbitration anyhow? What if a stoppage produces conditions of emergency? We have argued that the preferences of the parties may simply have been conditioned by the ready provision of compulsory arbitration. Such preferences should, therefore, not be regarded as a necessarily sound basis for operating the machinery for settling disputes. The value of collective bargaining should be judged on its merits. In the same way, we would presumably not take too seriously the proclamations of a highly protected industry on the evils, from the national point of view, of foreign competition. There will be, of course, areas in industry where the absence of adequate organization among employees may necessitate state intervention along the lines of a wages board; and it may be that in the public service and certain public utilities where it may be desirable to avoid political entanglements, similar provisions should be made for wage determination and other industrial matters. But these forms of government intervention should be ancillary to the predominant practice of collective bargaining, and not the other way round, as at present in Australia.

On the second problem, if union and management are prepared to force their dispute to a showdown even to producing a national emergency, clearly government intervention cannot be avoided. But two points should be stressed. First, the emergency must be real, involving the risk of widespread economic loss or danger to life and health, not just discomfort. Second, even in emergency disputes, there are differences in the nature of government intervention. It could take the form of a return-to-work order or the use of troops to maintain the service but leaving the parties to work out an agreement. Alternatively, the government or its agency may impose a settlement on the parties by compulsory arbitration. The latter form of intervention should be avoided if possible, but if the parties in an industry do not learn to work out an accommodation process in spite of successive emergency crises, there is little alternative but to accept close government regulation as an unavoidable evil. The Australian stevedoring industry may be in this category. But the most gloomy expectations would not justify the extent of government regulation of industrial relations in Australia.[16] For it is reasonable to suppose that for most unions and employers survival must be a primary objective, and ways and means will be found to achieve this objective even without government intervention.

IV

What, then, are the prospects for collective bargaining in Australia? The extension of collective bargaining requires first and foremost a profound change in the approach of industrial tribunals to dis-

16. Presumably most emergency disputes (involving industries such as stevedoring, shipping, rail transport) could be handled directly by the federal government under its Trade and Commerce power. See O. de R. Foenander, *Studies in Australian Labour Law and Relations* (Melbourne University Press, 1952), p. 7 *et seq.*

putes. Their primary objective should be to *assist* in the formulation of an agreement mutually acceptable to the disputing parties and for which the latter bear the responsibility. In other words, their primary objective should be to promote the development of collective bargaining rather than merely to impose a speedy but formal settlement of disputes. Such a role would necessitate extreme reluctance to use the powers of compulsory arbitration even if a stoppage develops or continues unsettled.[17] This would throw the weight of settlement on the disputing parties.

Our tribunals are so steeped in the traditions of compulsory arbitration that, although it would be theoretically possible, in practice it seems highly unlikely that a fundamental change in their outlook would take place without specific legislative provisions, e.g. the right to resort to compulsory arbitration only with the consent of the Minister of Labour. If properly administered, this would provide the system with the necessary element of uncertainty to ensure that collective bargaining was not inhibited.

There are two difficulties in the way of such legislative provisions. First, there is no indication that the general public wants any such change in the machinery for settling disputes. This is not because the public has given any serious thought to the problem but the opposite. Compulsory arbitration and extensive government regulation of industrial regulation has become one of the facts of life which must not be questioned.[18] The increase in stoppages which is bound to take place during the period of adjustment to collective bargaining is likely to harden public opinion in favour of compulsory arbitration. It would need a strong, sophisticated and patient Department of Labour to educate the public to the virtues of collective bargaining and at the appropriate time to formulate the necessary legislation to restrict the use of compulsory arbitration.

The second difficulty relates to the constitutional problems of the Australian federal system. The suggested reform in the operation of the machinery for settling industrial disputes would have to be carried out on both the state and federal levels. Since party politics play an active part in the provisions for industrial regulation, it would require an unusual degree of unanimity among the contending political parties and among federal and state governments to produce the necessary legislative changes.

It was suggested earlier that the preferences of employers and unions should not necessarily be the basis upon which government machinery for settling disputes should operate. It must be plain, how-

17. Ironically enough, "inefficiency" in the operation of tribunals has been a factor in the development of collective bargaining in the Melbourne building industry. Elsewhere it has produced "threats" of direct negotiation. See *The Worker*, October 31, 1955.

18. It is sometimes suggested that there should be more of it. The Prime Minister, Mr. Menzies, is reported to have said that the Commonwealth tribunal should be empowered to fix awards and industrial policy without there first having to be an industrial dispute. "The present system means that you must have your war before you can have your peace." *The Age*, Melbourne, September 12, 1958.

ever, that in practice these preferences will have a major influence on the policies of the major political parties. In the early stages of arbitration, employers were generally against the system of compulsory arbitration for the very reason that the unions were in favour of it—that it required unions for its operation and hence stimulated and assured the existence of unions. However, once unionism had developed in strength over large areas of industry, the attitude of employers changed radically. In spite of dissatisfaction with occasional judgments, employers have tended to regard the system as their main defence against excesses of union power. This is a little difficult to understand. Are the economic coercive powers of employers really so feeble in the face of union strength? If one views the position of the *individual* employer vis-a-vis a union or a combination of unions, his diffidence to face a world without compulsory arbitration is understandable. But there are large numbers of employers' associations in this country whose very existence was in many cases stimulated by the growth of unionism. We come back to the conclusion that these associations, having lived under the protection of the arbitration system for such a long time, have developed into formal but effective organizations for presenting arguments through their lawyers to the tribunals and assisting their constituents in applying the awards of tribunals. These associations are to their respective industries what industrial officers are to their firms. They have neither the experience nor the personnel to undertake collective bargaining. They are not, like their British and American counterparts,[19] the basis of collective bargaining procedures, organized to face unions, to discuss possible terms with them on behalf of their constituent employers, to come to an agreement which is binding on their members, or if they are unable to do so, to act as fighting bodies if necessary, and face the consequences of a strike or lockout. There is no doubt that, deprived of readily available compulsory arbitration, employers' associations will respond to the needs of their constituents and become the basis for negotiations with unions. But so long as the present system is operating, inertia, if nothing else, will dictate that the necessary pressure will be put on political parties to prevent any fundamental change in industrial regulation.[20]

On the argument that employers are ill-equipped to meet the unions in bargaining, it might be imagined that the unions, having gained numerical strength amongst the highest in the world, might be anxious to see the end of compulsory arbitration. It was suggested earlier that the unions have indeed been showing increasing interest in "working outside the arbitration system". All this amounts to is an attempt by negotiation with individual employers to obtain wages in

19. H. A. Clegg in A. Flanders and H. A. Clegg, *op. cit.* Chapter IV; Clark Kerr and L. H. Fisher, "Multiple-Employer Bargaining: The San Francisco Experience", in R. A. Lester and J. Shister, *Insights into Labor Issues* (Macmillan, New York, 1948).

20. The Editorial in the *Employers' Review* (October 7, 1957) emphasizes that "Industrial arbitration *must* be retained, even though more and more industrial matters may be resolved, in future, by the process of conciliation".

excess of awards wherever possible. But this does not mean that they would like to see the abandonment of the basic features of compulsory arbitration, especially if the penalty powers of the present system could be reduced. The 1955 Congress of the A.C.T.U. endorsed the recommendation of the Arbitration Committee which stated, "It is not suggested by the Committee that we should abandon the Arbitration form of adjusting industrial disputes, but that there should be radical changes in the machinery to settle either actual or potential disputes".[21] There is no reason to suppose that the trade union movement would be prepared to apply political pressure for the elimination of compulsory arbitration.[22]

At first sight, this is a little surprising in view of the numerical strength of unionists under conditions of high employment. Whatever assistance the system of compulsory arbitration might have been in the past, surely the unions should now be able to stand on their own feet and, indeed, to demand freedom to meet employers without the interference of arbitrators?

Two points may be advanced in answer. First, the inexperience and lack of confidence of union leaders to meet employers (or employers' associations) in collective bargaining. Like the employers, union leaders have been conditioned to the lighter load of responsibility and sense of security of the system of compulsory arbitration. It is usually easier to make extravagant claims than to negotiate an agreement; to criticize the award of the arbitrator than to justify the terms of an agreement; to leave the problem of enforcement to the tribunals than to accept the responsibility for it. It would require a whole succession of adverse awards for the unions to be jolted out of their traditional support for compulsory arbitration. The sort of ideal arrangement which unions envisage is to have the arbitration system operating with greatly reduced penal powers (against the unions anyway) and possibly also with less control over internal union affairs. The right to strike would exist as a means of protest, not so much against employers, but rather against the awards of tribunals or to draw attention to grievances being left unattended by tribunals.

Second, a number of significant elements—the basic wage, the general level of margins, standard hours of work—tend by their very nature to be determined at a national level. They are of fairly general application, and national economic and social considerations are relevant in their determination. It has become a feature of arbitration hearings in these matters for the A.C.T.U. to plan and to present the

21. *Executive Report*, A.C.T.U., September 5, 1955, p. 25.

22. The communist-led unions, such as the Waterside Workers' Federation, might be the few exceptions. It is possible that one of the main motives here is greater freedom for disruptive industrial warfare rather than industrial co-operation. But this should not in itself justify the general use of compulsory arbitration. As has been suggested, a persistent refusal by one or both parties to use collective bargaining as an accommodation process and a means of resolving industrial conflict, will necessitate government intervention. Those who use collective bargaining as a means of industrial warfare with reckless disregard for the public interest will, of course, call forth the limiting force of legal restraint.

union point of view; and for the Associated Chambers of Manufacturers in conjunction with a few other major federal employers' associations[23] to argue the case of the employers. The role of each of these parties is a fairly simple one: to oppose what the other proposes, through their respective lawyers. The position would be very different under collective bargaining. The parties would have to *negotiate* with each other. Each would not only speak on behalf of its constituents. It would also need effective powers to direct and discipline them, to ensure that its coercive powers were properly harnessed and that any agreement reached was honoured by all.[24] Trade union solidarity on such a scale is highly unlikely without far-reaching changes in the structure of unionism. It is even more unlikely on the side of employers.

Therefore, the abandonment of compulsory arbitration may well involve the abandonment of the basic wage, standard hours of work and other industrial matters which have hitherto been determined on a national basis and have imparted the high degree of uniformity in Australian industrial awards. The most that can be expected from unions and employers' associations following the abandonment of compulsory arbitration is that their organizations would be adapted for piece-meal collective bargaining along British lines with certain industries developing leadership in wage adjustments. But the basic idea and national uniformities in wage rates, hours of work, etc., are deeply ingrained in the trade union movement and for that matter, also among employers. It is unlikely that wage earners as a whole would have anything to lose from the formal abandonment of the basic wage in a strongly unionized economy under conditions of high employment. On the contrary, to impose on wage tribunals, whose *raison d'etre* is the settlement of industrial disputes, the task of formulating a centralized wage policy involves an inevitable degree of caution and conservatism in wage policy which, in the long run, may slow down the general rise in real wages. It may well be, however, that uniformity and the security of a floor to wages provided by the arbitration system rather than the maximization of the wage bill are the more urgent objectives of the trade union movement. For the present it may be more expedient to obtain over-award benefits by negotiation, wherever possible; but this is to be subsidiary to the basic feature of the compulsory arbitration system whereby tribunals may readily intervene in disputes to impose legally binding awards on the parties.

V

The prospects for collective bargaining on a wide scale in Australia are still remote. This does not mean that we have found in compulsory arbitration the ideal method of settling industrial disputes.

23. Australian Council of Employers' Federation, Australian Metal Industries' Association and Graziers' Federal Council of Australia.

24. The Scandinavian countries provide an example of the institutional arrangements necessary for collective bargaining on national issues. See Walter Galenson, *Comparative Labor Movements* (Prentice-Hall, New York, 1952), Chapter 2.

Whatever its virtues in the early years of unionism, it has certain undesirable consequences which are avoided under collective bargaining. But these weaknesses of the present system are pushed into the background by a public mind unduly morbid about strikes and untutored in the less tangible and more subtle aspects of industrial relations; by unions and employers' associations conditioned to the limited organizational needs of compulsory arbitration and thus incapable and unwilling to face a major change; and by a strong attachment on both sides of industry for a high degree of uniformity in industrial awards.

An extension of the limited practice of "working outside the arbitration system" may well be the gradual process of educating both unions and employers to the merits of collective bargaining and equipping them with the facilities for undertaking collective bargaining; and eventually exercising the necessary political pressures for the abandonment of compulsory arbitration. At the present time, the unions, dissatisfied with arbitration awards, are searching for ways and means of securing better conditions through the direct, but essentially subsidiary, process of negotiation. They would do well, however, not to be discouraged by the rebuffs from employers' associations for negotiation on *national* industrial issues, but rather to direct their efforts to negotiate at company and industry levels. The problems of adequate employer organization for collective bargaining on a nationwide basis are for the present considerable. Furthermore, as Australian industry grows in size and complexity, the case for uniformity in industrial awards becomes harder to sustain.

So long as the present provisions for compulsory arbitration remain, however, the unions' search for an alternative system will be in vain without assistance from employers. This assistance will come from those enlightened enough to realize that the cost of labour must not be measured by the wage level alone; and that only collective bargaining provides the basis for an exchange of a higher wage level for a greater measure of union co-operation.[25]

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25. It should be understood that whatever has been said against the present provisions of compulsory arbitration does not apply to the regulations of the internal affairs of unions as provided under the Arbitration Acts. These regulations raise an independent set of problems.

NEW ASPECTS OF AUSTRALIA'S INDUSTRIAL STRUCTURE*

The aspects of the industrial structure investigated in this paper are exemplified by the following varied questions in answer to which statistical estimates have been computed: What is the import content of the investment programme? What is the contribution of manufacturing industry to exports? How far does the demand for steel depend upon demand for rural products? What would be the effect on wages and employment of a fall in investment?

The underlying object of this paper is to illustrate the uses of the accompanying 40 x 40 transactions table for 1953-4. Large tables, such as that published in the December 1957 issue of the *Economic Record*, are too cumbrous for speedy day-to-day use. Forty sector tables, however, are quite manageable in application to a variety of problems. Sections 2 and 3 set out the results of a number of calculations made with this forty sector table or—to achieve greater speed—with an aggregated twenty sector table.[1]

1. *Description of the tables*

The transactions table is best regarded as a disaggregation of the social accounts in the *National Income and Expenditure* white paper. Table I is a tabular presentation of the double entry accounts of 40 sectors, each column showing the costs of an industry and each row the market for the industry's products. To assist the reader in reading the central rectangle, we have there shown the costs in each column not as absolute figures, but as percentages of the industry's total net cost at the bottom of the column.[2] Outside the central rectangle, the normal practice has been followed of showing figures in £m., except that labour is in thousand man-years.

Table II has been obtained from Table I by matrix inversion on a high-speed computer. This table shows, in each column, the *total* supplies directly *and* indirectly required from every industry to satisfy £1m. of final demand for the product of the industry named at the top of the column. The relation between these two tables may be clarified by an example. Consider the entry at the intersection of Column 4 and Row 9 in both tables. In Table I this entry shows that £1m. of manufactured foodstuffs has an average on-site black coal content of £0·004728m. However, £1m. of foodstuffs requires a variety of other

* The compilation of tables and computation of results in this paper have been done by Margaret Charlesworth, D. P. Evans and Laura Hodan. We have been assisted by a large number of public and private organizations. In particular, the work could not have been completed but for the advice and assistance generously given by the Department of Trade and by the Commonwealth Bureau of Census and Statistics.

1. The December 1957 table was published in physical units wherever possible, whereas Table I is wholly in value terms. The two tables are thus used to answer rather different questions. For other differences see Mathematical Note.

2. The transactions table has been compiled at purchaser's values. The term "net" refers to the netting out of internal sales within the industry. Refer *Economic Record*, December 1957, p. 358.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.
1. Sheep	.....	.....	.....	.002260	.....	.....	.....	.128037	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
2. Other rural	.014543	.....	.103767	.311721	.141098	.016308	.040303	.016280	.000188	.001674	.005839	.000076	.000251	.000004	.002289	.002804	.013577	.....	.006228	.000145	*
3. Beer, tobacco	.....	.....	.....	.000309	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
4. Foodstuffs	.016098	.033245	.011693	.....	.....	.....	.002448	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
5. Woodworking	.....	.000377	.001330	.004646	.....	.003609	.006935	.000050	.018282	.006985	.010394	.010013	.006814	.002192	.....	.....	.....	.....	.002150	.018970	.0028
6. Paper, printing	.....	.....	.010670	.024512	.001069	.....	.017806	.005105	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.010045	.....
7. Chemicals, rubber, misc. manufactures	.017670	.023967	.000040	.009538	.001890	.019823	.....	.004141	.011314	.005937	.022112	.....	.012976	.002170	.....	.....	.....	.....	.....	.009277	.0470
8. Textiles, clothing, leather, footwear	.009995	.009223	.....	.007011	.006406	.....	.021420	.....	.....	.....	.....	.....	.....	.....	.002992	.....	.000044	.....	.....	.....	
9. Black coal	.....	.....	.001484	.004728	.000470	.005065	.004403	.001270	.....	.....	.003949	.000069	.000191	.000083	.608412	.256768	.409741	.....	.015831	.000411	.0000
10. Brown coal	.....	.....	.000221	.000764	*	.002785	.000882	.000459	.....	.....	.....	.000001	.....	.....	.....	.036337	.....	.532233	.000002	.000080	.0001
11. Other mining & refining	.....	.....	.....	.....	.001040	.....	.041558	.....	.....	.....	.....	.518879	.396996	.....	.....	.....	.....	.....	.116926	.....	.....
12. Non-ferrous rolling and extrusion	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.001113	.....	.....	.....	.....	.....	.....	.....	.....	.082716	.....
13. Non-ferrous founding & casting	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.010985	.....
14. Oil refining	.018234	.035112	.001435	.002691	.003993	.001780	.005409	.001438	.001904	.004089	.009697	.003965	.009475	.....	.002705	.051187	.050987	.000002	.005886	.001286	.0008
15. Coke	.....	.....	.000444	.000371	.000029	.000060	.001714	.000140	.....	.....	.008931	.000495	.003812	.000006	.....	.000854	.047632	.....	.122230	.000300	.0000
16. Electricity	.....	.....	.002217	.007210	.007420	.003742	.009795	.004647	.016983	.009692	.026139	.011120	.015117	.001822	.007721	.....	.005766	.....	.020831	.004803	.0017
17. Gas	.....	.....	.0000?3	.000856	.000106	.000623	.000477	.000187	.....	.....	.000076	.001404	.003214	.000017	.003213	.001284	.....	.....	.008313	.001255	.0001
18. Briquettes	.....	.....	.....	.000433	*	.000209	.000216	.000176	.....	.....	.....	.000003	.000001	.....	.....	.019846	.....	.....	.....	.000002	.....
19. Iron and steel	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.006958	.....
20. Radio & electrical	.....	.....	.000275	.000918	.001256	.001219	.001017	.000698	.....	.....	.000821	.001059	.001611	.....	.001723	.011902	.002591	.....	.004665	.....	.0003
21. Motor vehicles: assembly	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
22. parts	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.4331
23. repairs	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
24. Ferrous castings	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.006125	.....	.....	.....	.....	.....	.....	.....	.....	.006800	.....
25. Rolling stock	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
26. Ships and boats	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
27. Tractors, agric. machines	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
28. Sheet metal products	.....	.036691	.001748	.028937	.000577	.....	.006619	.....	.....	.....	.....	.....	.....	.005249	.....	.....	.....	.....	.....	.000113	.....
29. Pipes	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
30. Wire	.....	.....	.....	.....	.003511	.....	.....	.....	.....	.....	.005080	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
31. Stoves and ovens	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
32. Refrigerators	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
33. Engineering	.050191	.....	.003260	.010899	.014910	.014465	.012875	.008285	.066034	.038043	.108912	.012572	.019123	.002580	.020458	.038958	.090754	.....	.038333	.011783	.0044
34. Building, etc.	.....	.001378	.016350	.002728	.002869	.001109	.006809	.....	.....	.....	.....	.....	.....	.000026	.....	.....	.....	.....	.008202	.....	.....
35. Rail transport	.019840	.029156	.007476	.028756	.016752	.007549	.020823	.008774	.186820	.192089	.041596	.023855	.001673	.040019	.054802	.....	.011150	.012893	.014031	.001434	.0123
36. Road transport	.005820	.024775	.004439	.010541	.019253	.003381	.008865	.007525	.064310	.147560	.007700	.011522	.000404	.033016	.009413	.....	.002598	.007033	.026682	.001193	.0119
37. Airways	.000440	.000669	.000626	.000380	.000392	.001927	.001270	.000949	.....	.....	.....	.000812	.....	.000713	.000179	.....	.000132	.....	.000780	.000426	.....
38. Shipping, coastal	.002173	.005122	.003976	.010574	.006696	.005615	.003874	.003062	.099438	.....	.045783	.003633	.000115	.014192	.075360	.....	.002631	.....	.014689	.001488	.0028
39. Commerce	.162232	.166939	.300731	.173482	.154342	.123692	.161958	.249881	.000125	.....	.....	.055205	.....	.277959	.010395	.249466	.141052	.....	.....	.077456	.1909
40. Other services	.013593	.022271	.012593	.090107	.120848	.058013	.115419	.081877	.053398	.057948	.082892	.018321	.051839	.020772	.050912	.045222	.040489	.048411	.036773	.132734	.0169
wages	.086659	.091459	.035247	.114887	.244882	.267063	.138217	.176075	.313186	.265433	.248300	.102385	.324275	.006863	.101481	.109221	.123909	.244563	.211146	.277629	.0598
Non-wages	.312910	.392935	.030714	.074335	.099519	.150724	.079147	.060589	.146422	.232387	.185420	.051986	.123678	.032219	.002454	.120610	.095879	.125480	.086414	.067590	.0332
Depreciation	.036844	.077612	.004012	.010368	.009630	.022357	.015181	.006711	.021374	.023195	.023844	.009310	.013797	.002626	.032313	.050098	.014318	.017197	.022129	.014112	.0051
All taxes & subsidies	.029325	.002049	.423047	.027623	.049172	.044151	.064332	.033633	.019963	.014767	.018575	.011096	.015219	.147311	.004636	.007143	.006750	.012188	.023674	.065253	.1057
Imports c.i.f.	.003433	.043020	.022175	.037914	.091659	.237709	.211026	.199991	.000260	.....	.136701	.152205	.....	.410961	.008948	.....	.....	.....	.214085	.191155	.0726
Total net cost £m.	531.968	834.473	313.154	659.164	211.024	156.176	422.794	655.724	80.080	5.727	132.079	32.026	17.339	229.919	17.317	94.380	30.404	1.706	89.798	129.042	216.6
Employment '000 m.y.	179.006	317.604	13.748	107.976	79.887	56.119	76.663	196.678	26.611	1.598	35.154	3.546	7.589	1.822	1.815	11.393	4.141	0.473	19.996	48.077	15.2
Employees '000 m.y.	84.006	139.087	13.672	102.202	72.989	54.603	75.024	187.816	26.484	1.596	34.963	3.546	7.202	1.820	1.815	11.525	4.141	0.473	19.931	47.394	15.2

* Too small to be recorded. ϕ Excluding public works exp

NOTES: (i) *Cost Structure.*—In the central rectangle, costs in each column a by the sheep industry (1) of the products of the other rural indu years in the case of employment).

(ii) *Row Totals.*—The total of row 9 (i.e. total sales of black coal) e of all the rows for the 40 industry sectors. The totals of the next sidies £458.243m.; imports c.i.f. £793.333m. The total of these employment is 3,612,423 persons and total employees are 2,994,3

Direct and Indirect Re

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.
1. Sheep	1.002293	.002553	.001365	.006178	.003667	.001506	.005456	.130412	.001734	.001459	.002044	.001636	.001850	.001169	.002690	.002010	.002034
2. Other rural	.025862	1.020474	.116312	.332435	.158383	.026057	.058897	.031520	.012943	.011402	.019821	.015077	.015461	.006913	.017321	.015186	.026559
3. Beer, tobacco	.000006	.000013	1.000006	.000315	.000004	.000001	.000003	.000002	.000001	.000001	.000001	.000001	.000001	.000001	.000002	.000001	.000002
4. Foodstuffs	.019724	.043398	.019804	1.020099	.013317	.004972	.011840	.009236	.005498	.003726	.006269	.004975	.005379	.003734	.007562	.006271	.006670
5. Woodworking	.002278	.003743	.006909	.010353	1.004738	.006409	.012889	.003705	.022263	.010618	.014442	.018728	.014184	.004801	.015769	.009289	.012163
6. Paper, printing	.007313	.008919	.021613	.037121	.012043	1.006979	.028696	.016880	.005146	.004604	.005940	.005991	.005268	.004133	.006604	.011460	.009058
7. Chemicals, rubber, misc. manufactures	.025419	.034625	.012811	.036667	.024679	.030437	1.021263	.022335	.025650	.023293	.036480	.023586	.034327	.012265	.024097	.018792	.020619
8. Textiles, clothing, leather, footwear	.017580	.019171	.010309	.030243	.028404	.011673	.042401	1.018229	.013450	.011332	.015855	.012691	.014352	.009065	.020879	.015588	.015766
9. Black coal	.004213	.006417	.006377	.015871	.007757	.010683	.014728	.006718	1.022768	.019880	.024949	.019794	.018940	.006183	.633280	.267543	.538305
10. Brown coal	.000322	.000414	.000737	.001914	.000707	.003552	.001961	.001150	.001343	1.000987	.001590	.001493	.001448	.000415	.001407	.047601	.001118
11. Other mining & refining	.003421	.004888	.002375	.006226	.004291	.002480	.045049	.002234	.004855	.003703	1.008163	.524155	.402220	.001551	.004786	.004381	.004317
12. Non-ferrous rolling & extrusion	.001419	.002491	.000890	.003331	.001334	.000795	.001617	.000855	.001915	.001233	.004147	1.002675	.002453	.000621	.002037	.002725	.002072
13. Non-ferrous founding & casting	.001733	.000444	.000334	.000970	.000819	.000666	.000919	.000709	.002518	.001641	.003789	.002493	1.002263	.000305	.002409	.002244	.002290
14. Oil refining	.026860	.047924	.015349	.032656	.026758	.012187	.024176	.018499	.024677	.035804	.025066	.023371	.025485	1.013382	.027408	.068947	.071033
15. Coke	.000704	.001636	.000981	.002466	.000922	.000541	.003028	.000639	.001031	.000798	.011029	.006522	.008301	.000442	1.001203	.001821	.048603
16. Electricity	.005194	.006374	.008802	.015693	.013125	.012596	.017095	.010759	.027327	.019940	.032178	.030482	.029371	.007792	.028506	1.013383	.022364
17. Gas	.000473	.000690	.000600	.002132	.001249	.001248	.001648	.001099	.000737	.000623	.001116	.002247	.003924	.000522	.004163	.002199	1.001038
18. Briquettes	.000121	.000158	.000195	.000776	.000280	.000472	.000580	.000405	.000555	.000406	.000656	.000620	.000599	.000163	.000581	.020124	.000457
19. Iron & steel	.003768	.011287	.003115	.013840	.005087	.001988	.005246	.002335	.005483	.003638	.010766	.006791	.006039	.002531	.005534	.004797	.005158
20. Radio & electrical	.001877	.001449	.001826	.004025	.004301	.003054	.004249	.003172	.003145	.002441	.005113	.004684	.005183	.001310	.005300	.015032	.005930
21. Motor vehicles: assembly	.000000	.000000	.000000	.000000	.000000	.000000	.000000	.000000	.000000	.000000	.000000	.000000	.000000	.000000	.000000	.000000	.000000
22. parts	.000689	.001462	.000968	.001408	.001382	.000538	.000959	.000988	.002583	.005537	.000615	.000924	.000401	.001794	.002067	.001593	.001716
23. repairs	.001371	.002946	.001914	.002826	.002786	.001072	.001924	.001964	.005260	.011286	.001248	.001870	.000814	.003607	.004208	.003198	.003465
24. Ferrous castings	.001830	.001297	.000593	.001978	.001097	.000767	.001516	.000828	.003040	.002005	.010157	.005861	.004834	.000546	.003001	.002409	.002604
25. Rolling stock	.001350	.001983	.000831	.002620	.001554	.000768	.001793	.000980	.009229	.010489	.002844	.002892	.001494	.002709	.008753	.003237	.005120

TABLE I

...ions Table 1953-4: Purchaser's Values (Net)

20.	21.	22.	23.	24.	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	Consumption £m.	Government £m. ♯	Total Investment £m. ●	Exports £m.	Stock Rise £m.	Aggregate Final Demand £m.
...228 .000145	•	.000036	.000125	.000827	.000227	.000017	.000109	.000121	.000174	.000121	.000344	.000119	.000220	.002535	.002987	.....	.....	.....	.....	.064211	76.710	.....	.....	386.617	-16.219	446.508
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	292.722	17.215	.....	105.583	+40.954	456.473
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	307.000	.....	.....	2.278	+ 3.672	312.950
...50 .018970	.000209	.008751	.000003	.022546	.000026	.029862	.006229	.006841	.004105	.005540	.002874	.000995	.001343	.169468	.006429	.000115	.001064	.000379	.002661	.014070	52.478	3.193	.....	3.421	+ 3.549	62.641
.....	.010045	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.003021	.002853	.001933	.004679	.001773	.023811	.029022	61.599	2.218	.....	2.052	+ 1.615	67.424
... .009277	.047058	.016763	.....	.032729	.....	.....	.018624	.000132	.....	.....	.....	.....	.004322	.002151	.039016	.002136	.033512	.003276	.001881	.005175	.092559	177.118	6.821	.....	18.592	+20.815	223.346
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.000082	.005906	.000935	.004594	.008823	.003309	.114693	389.000	20.463	.....	51.241	+40.609	501.313
...931 .000411	.000057	.000233	.000028	.005769	.002048	.001130	.000316	.000168	.001656	.002570	.000377	.000130	.000191	.008875	.067674	.....	.....	.023140	.....	.000451	.....	0.415	.....	1.659	+ 0.845	2.919
...002 .000080	.000192	.000206	.000001	.....	.....	.....	.000029	.....	.000001	.....	.....	.....	.000087	.000043	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	- 0.431	-0.431
...326	.....	.....	.093363	.....	.....	.....	.007796	.032454	.018699	.....	.....	.....	.000308	.037889	.002836	.....	.....	.....	.....	.....	.....	.....	.....	63.177	-13.504	49.673
... .082716	.....	.001176	.....	.....	.000599	.001827	.004904	.058992	.....	.....	.....	.....	.009556	.020773	.008119	.....	.....	.....	.....	.000515	.....	0.150	.....	1.802	+ 1.063	3.015
..... .010985	.....	.017347	.....	.....	.013480	.009154	.....	.005239	.....	.....	.....	.....	.....	.031059	.....	.....	.....	.....	.....	.000457	.....	.....	.....	.....	+ 1.063	1.063
...886 .001286	.000897	.001302	.001669	.117000	.003624	.002148	.002923	.001815	.009703	.003264	.010868	.003762	.001492	.003888	.023059	.131783	.310886	.011164	.009580	.054191	52.132	3.539	.....	0.899	+14.071	70.640
...230 .000300	.000025	.000077	.000045	.045719	.001419	.000641	.002453	.000168	.002516	.001436	.005091	.001762	.000340	.000217	.....	.....	.....	.....	.000050	.000109	.....	.....	.....	0.240	.....	0.240
...931 .000403	.001773	.004760	.008562	.021402	.010254	.010190	.003388	.005307	.009106	.012166	.010488	.003631	.005222	.003703	.039744	.001031	.001361	.006320	.014134	.....	38.000	1.523	.....	.....	.....	39.523
...313 .001255	.000123	.000532	.000425	.000498	.000670	.000232	.000366	.001908	.003898	.001116	.001892	.000655	.000793	.000650	.....	.000072	.....	.....	.000217	.005727	21.000	.....	.....	.....	- 0.305	20.695
... .000002	.....	.000001	.000007	.000198	.000017	.000172	.000083	•	.....	.....	.....	.....	.000007	.000168	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	- 0.821	-0.821
... .006958	.....	.046060	.....	.344344	.031358	.035550	.118565	.271952	.276763	.258591	.105277	.038343	.038157	.011095	.000122	.....	.....	.....	.....	.....	.....	.....	.....	.....	10.592	- 2.274	8.318
...565	.000376	.000825	.001088	.000796	.001639	.001382	.000703	.001240	.001716	.001235	.001010	.068245	.017184	.009479	.000484	.000895	.000128	.000203	.000424	.012382	59.480	1.210	30.716	1.472	+ 1.537	94.405
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	216.000	0.655	.....	216.655
.....	.433169	.....	.388193	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.000028	.007458	.000085	.....	.000441	.....	.....	.....	.....	1.127	+ 1.085	2.212
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.000111	.073067	.000213	.....	.003427	.000225	59.684	0.480	.....	.....	.....	60.164
... .006800	.....	.015740	.....	.....	.043950	.060885	.064375	.026647	.160600	.....	.052404	.....	.028106	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.047	- 5.252	- 5.205
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.052196	.....	.....	.....	.....	.....	.....	.....	.....	50.381	0.054	.....	50.435
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21.379	0.340	.....	21.719
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	60.678	1.667	.....	62.345
... .000113	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.606	.....	.....	6.898
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	0.291	.....	0.291
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.641	+ 1.405	4.046
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1.294	+ 3.786	5.079
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

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commodity inputs (as shown by the other entries in Column 4) and these commodities in turn use, directly or indirectly, black coal for their production. Hence £1m. of final demand for manufactured foodstuffs will have an average on-site and off-site coal content greater than £0·004728m. The figure is given in Table II, viz. £0·01587m.—the difference being the indirect or off-site coal content. In summary, a comparison of the two tables throws light on the structure of industry because it shows the indirect relations which exist between the sectors.

2. *Statistics on factor content and market structure*

Tables I and II can be used to obtain new statistical series which describe certain characteristics of the economy.

First, Tables I and II can furnish an answer to the question: What was the wage content of £1m. of final demand for any commodity? In Table II, Column 4 shows the supplies required from each sector to satisfy £1m. of final demand for foodstuffs. By applying in turn to the figures in this column the wage coefficients from the wages row in Table I, we obtain the direct and indirect wage content of £1m. demand for foodstuffs. The results of this and similar calculations are summarized in Table III which estimates the wage content of £1m. foodstuffs to be £0·3969m.

Similarly one may ask: What was the non-wage income content, the tax content or the import content of £1m. final demand for any commodity? The answer is obtained by a similar procedure and Table III for example shows the direct and indirect import content of unit final demand. The total import content of £1m. foodstuffs is estimated at £0·1107m. It is interesting to note that, with several important exceptions, indirect import content (difference between columns *c* and *d*) tends to be within the region of 3 per cent to 8 per cent—in part reflecting the ubiquitous usage of imported fuels and machinery, and to a lesser extent of imported chemicals and textiles.

These questions lead inevitably to others of the type: What was the wage content of the investment programme in 1953-4? What was the import content of the investment programme, of the export bill of goods? Answers to these questions can be obtained by using Table III in conjunction with the appropriate final demand column on the right-hand side of Table I.[3] Table IV shows answers to such questions com-

3. This apparently straightforward procedure involves the implicit assumption that all components of aggregate final demand for the *same* commodity have the same factor content. Though we normally will make this assumption, it need not be correct and may lead to serious error. For example, it is not reasonable to suppose that the import content of home demand and export demand for "textiles" are the same. To summarize the difficulty: the attempt to specify factor content of the *individual components* of aggregate final demand for a commodity involves us in an aggregation problem.

There is one case in our computations in which we have consistently departed from the assumption that all components of aggregate final demand for a commodity have the same factor content: Following international trade theory we assume that exports of a commodity have zero direct content of competing imports. (Imports and exports are measured net of re-exports.) This involves the consequential assumption that direct import content of other categories of final demand for the commodity are above the average for that commodity.

TABLE III

*Wage Content and Import Content of £1m. of final product of industry listed in first column 1953-4**

Industry (short title)	Wage Content £m.		Import Content £m.	
	Total	Direct (See Table I)	Total	Direct (See Table I)
	a	*b*	*c*	*d*
1. Sheep	0·2306	0·0867	0·0479	0·0034
2. Other rural	0·2684	0·0915	0·0891	0·043
3. Beer, tobacco	0·2368	0·0352	0·053	0·0222
4. Foodstuffs	0·3969	0·1149	0·1107	0·0379
5. Woodworking	0·4491	0·2449	0·143	0·0917
6. Paper, printing	0·3896	0·2671	0·2671	0·2377
7. Chemicals, etc.	0·3541	0·1382	0·27	0·211
8. Textiles, etc.	0·3797	0·1761	0·2372	0·2
9. Black coal	0·621	0·3132	0·0544	0·0003
10. Brown coal	0·5515	0·2654	0·0478	0
11. Other mining	0·4399	0·2483	0·2088	0·1367
12. Non-ferrous rolling, etc.	0·4086	0·1024	0·2762	0·1522
13. Non-ferrous founding	0·5513	0·3243	0·1085	0
14. Oil refining	0·2051	0·0069	0·4314	0·411
15. Coke	0·6225	0·1015	0·0658	0·0083
16. Electricity	0·4631	0·1092	0·0709	0
17. Gas	0·5571	0·1239	0·0723	0
18. Briquettes	0·5724	0·2446	0·0344	0
19. Iron and steel	0·44	0·2111	0·2777	0·2141
20. Radio, electrical	0·4424	0·2776	0·2562	0·1912
21. Motor vehicle assembly	0·3185	0·0598	0·3	0·0726
22. Motor vehicle parts	0·2965	0·1697	0·4655	0·4259
23. Motor vehicle repairs	0·5397	0·3793	0·2004	0
24. Ferrous castings	0·5038	0·2191	0·1991	0·0186
25. Rolling stock	0·6286	0·5261	0·2184	0·1746
26. Ships, boats	0·6816	0·527	0·1471	0·0784
27. Agricultural machines, etc.	0·342	0·1495	0·4399	0·3729
28. Sheet metal products	0·4944	0·1998	0·1408	0·0099
29. Pipes	0·4822	0·1898	0·2477	0·1109
30. Wire	0·5043	0·242	0·1766	0·0766
31. Stoves, ovens	0·5035	0·2468	0·1538	0·0866
32. Refrigerators	0·2923	0·0682	0·0815	0·0239
33. Engineering	0·4199	0·2292	0·3445	0·2901
34. Building, etc.	0·5423	0·3418	0·1032	0·0215
35. Rail transport	0·8216	0·7131	0·0329	0
36. Road transport	0·523	0·4273	0·0928	0
37. Airways	0·5574	0·4388	0·1741	0
38. Shipping	0·6707	0·5671	0·0355	0
39. Commerce	0·4446	0·3717	0·0341	0
40. Other services	0·4137	0·2109	0·1621	0·0532

* Some of the figures merit comment:

The large difference between 15*a* and *b* is due to the high value of 9*a*, 35*a* and 38*a*. The large difference between 16*a* and *b* is due to the high value of 9*a* and to the relative importance of 39*a*.

The large differences between 12*c* and *d* and between 13*c* and *d* are due to the high value of 11*c*. The large differences between 21*c* and *d* and between 23*c* and *d* are due to the high value of 22*c*. The large differences between 28*c* and *d*, 29*c* and *d* and between 30*c* and *d* are due to the high value of 19*c*. The large difference between 37*c* and *d* is due to the high value of 14*c*.

The sum of columns *a* and *c* for a commodity usually accounts for at least 60 per cent of total value. In some cases the sum is below this because of high taxes (e.g. 3) or land rents (e.g. 1) or the relative importance of working proprietors (e.g. 39).

puted from a 20 sector table for 1953-4. The import content of demand is estimated at 6 per cent for exports, 16 per cent for consumption and 20 per cent for fixed investment. One reason why the consumption figure is comparatively high is that a significant amount of tools and other equipment is charged to current (and not capital) account by producers. The wage-plus-import content of consumption (52 per cent) is significantly less than that of investment (68 per cent) mainly because of high rural land rent content of foods, high excise and to some extent because of higher margins on consumer goods.

Yet another question is: What was the G.N.P. contribution of *individual* industries to exports (or to investment or consumption) in 1953-4? The answer to this is obtained in the process of drawing up Table IV. Thus Table V shows the G.N.P. contribution to exports by industries in rather broad groupings intended to contrast the "traditional" export sectors with other industries.[4]

TABLE IV

Wage and Import Content of Final Demand 1953-4: £m.

	Value	Wage Content	Import Content
EXPORTS net of re-exports	898	304	53
FIXED CAPITAL INVESTMENT, public and private	1,137	552	224
PERSONAL CONSUMPTION (including financial)	2,772	997	455
OTHER DEMAND (current government, stocks)	511	380	61
Total Market Expenditure	5,318	2,233	793

Note: Consumption of imports of tourism and other transport—respectively £17m. and £11m. in official statistics—are not shown in the transactions table. Hence total market expenditure is estimated at £5,346m. on official definitions. The comparable official estimate is rather higher at £5,393m.

TABLE V

Contribution, in terms of Gross National Product, of industrial groups to the Export Bill of Goods in 1953-4

Industry	Exports	G.N.P. Contribution
	£m.	£m.
Sheep, textiles	437	296
Other rural, food	264	154
Power, fuels	3	15
Other mining	65	44
Engineering	31	41
Transport, commerce	—	188
Other industry	98	107
Import content	—	53
	898	898

4. The calculations were made on a 20 sector basis to reduce computing time. The comments in the previous footnote apply here.

Finally, how great are the differences in factor content of different commodity groups? The answer to this should throw some light on price formation since, with unchanging technology, the possibility of changes in relative prices depends largely on differences in factor content. Table VI shows the results of a calculation designed to answer this question. The table shows, for example, that of £1m. of manufactured foodstuffs entering into final demand, 48 per cent was labour cost and 8 per cent rural land rent—although on-site labour cost was only 12 per cent and on-site rural land rent was zero.[5]

Turning now to the structure of commodity markets, Table I shows how commodities such as black coal, petroleum products and steel are sold largely to other industries which in turn sell their products directly or indirectly to final purchasers. Thus the prosperity of the black coal industry is intimately dependent upon consumer demand for power, passenger transport and foodstuffs. What does this "final market" for black coal look like? That is, how far does total production of black coal depend upon the various specific categories of final demand? The answer to this and similar questions can be calculated rapidly by multiplying the figures in the aggregate final demand column of Table I serially by the figures in the coal row of Table II. The results of this calculation for black coal and steel are shown in Table VII. These results can in turn be broken down as between export, investment and consumption demand by using these final demand columns in Table I.

The calculations presented above represent an attempt to obtain new facts about the economy by disaggregating the social accounts. These calculations suffer from an inherent defect—that they can never be disaggregated far enough for us to be sure that the conditions of aggregation are satisfied.[6] For example, the iron and steel "industry" produces and imports heterogeneous products. If in fact wire is made solely from Australian iron, but sheet metal products are made partly from imported sheet, then—because our classification aggregates all iron and steel products (and competing imports) up to the stage of bars, rods, rails, structurals and all plates and sheet—it follows that our estimate of the import content of wire is too high and of sheet products is too low. We can, however, hope to mitigate the aggregation

5. In this calculation, labour income includes an imputed return to working proprietors. Collection of basic data presented severe problems. In rural and mining industries, residual factor income was wholly attributed to rent, leaving zero margin. Capital charges in the rural and services sector are very tentative.

The calculation for each commodity (e.g. commodity 1) in turn was as follows. Taking the first column in the 20 x 20 inverse: multiply the first entry by *each* of the factor coefficients for industry 1 and enter in the first row of a new table having as many columns as factors; multiply the second entry by each of the factor coefficients for industry 2 and enter in the second row of the new table. The new table has 20 rows, the column sums are the required statistics for commodity 1 and the sum of column sums is unity.

6. Refer O. Morgenstern (ed.), *Economic Activity Analysis*, Wiley, 1954; also H. B. Chenery et al., *The Structure and Growth of the Italian Economy*, M.S.A., 1953.

TABLE VI

The Average Factor Content of Supplies of 20 Commodity Groups, 1953-4 (percentages)

The first row for each commodity shows (direct plus indirect) factor content summing to 100 per cent save for rounding. The second row "d" shows only direct on on-site content; the difference between the rows giving indirect factor content via embodied materials, power, services.

Commodities Classed by Producing Industry		Labour Income	Timber Rent	Mining Rent	Rural Land Rent	Depreciation	Interest, Fixed Cap.	Margin	Indirect Tax, Net	Imports, c.i.f.
1. Sheep		*35*	—	—	*38*	*5*	*6*	*6*	*5*	*5*
	d	18	—	—	38	4	4	—	3	—
2. Other rural		*41*	—	—	*25*	*9*	*5*	*7*	*3*	*9*
	d	21	—	—	24	8	3	—	—	4
3. Beer, tobacco		*29*	—	—	*3*	*2*	*3*	*13*	*44*	*5*
	d	4	—	—	—	—	—	3	42	2
4. Foodstuffs		*48*	—	—	*8*	*5*	*5*	*16*	*6*	*12*
	d	12	—	—	—	1	1	6	3	4
5. Woodworking ..		*52*	—	—	*4*	*4*	*4*	*14*	*7*	*14*
	d	27	—	—	—	1	1	6	5	9
6. Paper, printing ..		*42*	—	—	*1*	*3*	*4*	*17*	*6*	*27*
	d	27	—	—	—	2	2	12	4	24
7. Chemicals, miscell. ..		*40*	—	*1*	*2*	*4*	*4*	*14*	*9*	*27*
	d	14	—	—	—	2	1	6	6	21
8. Textiles, clothing ..		*44*	—	—	*6*	*3*	*4*	*14*	*6*	*24*
	d	18	—	—	—	1	1	4	3	20
9. Coal		*63*	—	*14*	—	*4*	*6*	*3*	*5*	*6*
	d	31	—	13	—	2	2	—	2	—
10. O'r mining, refining ..		*47*	—	*12*	*1*	*4*	*4*	*8*	*4*	*21*
	d	27	—	12	—	2	2	4	2	15
11. Oil refining		*24*	—	—	—	*2*	*3*	*12*	*16*	*43*
	d	1	—	—	—	—	—	3	15	41
12. Gas, electricity ..		*53*	—	*5*	*1*	*7*	*11*	*12*	*5*	*7*
	d	12	—	—	—	4	7	3	1	—
13. Iron and steel ..		*45*	—	*2*	—	*4*	*5*	*11*	*5*	*28*
	d	21	—	—	—	2	2	7	2	21
14. Radio, electrical ..		*47*	—	*1*	*1*	*3*	*3*	*11*	*9*	*25*
	d	28	—	—	—	1	1	5	7	19
15. Motor vehicles ..		*42*	—	—	—	*2*	*3*	*10*	*14*	*28*
	d	23	—	—	—	1	1	3	12	24
16. O'r engineering ..		*47*	—	*1*	—	*2*	*4*	*11*	*6*	*28*
	d	26	—	—	—	1	1	4	4	22
17. Building		*64*	—	*1*	*1*	*2*	*2*	*15*	*4*	*10*
	d	41	—	—	—	—	—	9	2	2
18. Transport		*73*	—	*1*	—	*4*	*9*	*2*	*5*	*7*
	d	62	—	—	—	3	8	−1	3	—
19. Commerce		*55*	—	—	—	*3*	*6*	*29*	*4*	*3*
	d	46	—	—	—	2	5	27	2	—
20. Other services ..		*50*	—	—	*3*	*5*	*6*	*12*	*6*	*17*
	d	26	—	—	—	3	4	6	3	5

Note: Any figure below 0·5 per cent is not entered.

TABLE VII

The Final Market for Coal, etc., 1953-4: £m.

Final demand for commodities classified by producing industry	Black Coal	Petroleum Products	Iron and Steel
1. Sheep	2	12	2
2. Other rural	3	22	5
3. Beer, tobacco	2	5	1
4. Foodstuffs	9	19	8
5. Woodworking	0	2	0
6. Paper, printing	1	1	0
7. Chemicals, etc.	3	5	1
8. Textiles, clothing	3	9	1
9. Coal	3	0	0
10. Other mining	1	1	1
11. Oil refining	0	72	0
12. Gas, electricity	22	4	0
13. Iron and steel	1	0	8
14. Radio, electrical	1	2	1
15. Motor vehicles	2	4	7
16. Other engineering	7	8	31
17. Building	12	12	17
18. Transport	3	14	0
19. Commerce	0	0	0
20. Other services	6	39	5
Total sales (see Table I) ..	80	230	90

Notes: The results of the calculations, carried out on a 40 industry basis, have been grouped for compact presentation. Figures are rounded and therefore may not sum to the total.

The table shows, *inter alia*, the extent to which sales of the products of the mineral oils industry depend upon the various categories of final demand. For example, sales by this industry depended to a significant extent (£19m.) upon final demand for manufactured foods.

In the last column the large sub-total £31m. contains (in terms of the 40 sector classification) two large items: (27) tractors and agricultural machinery £9m.; (33) engineering £13m. That is, the final demand for agricultural machinery accounts for 10 per cent of sales of iron and steel. Since the final demand for all rural products and foodstuffs (the first four groups above) accounts for a further £16m. of steel sales, the relation between the rural and steel industries is of major importance.

problem by care in choice of classification and in interpretation of results.[7]

3. *Input-output analysis and technology*

Studies of factor content and market structure are an attempt to describe certain characteristics of the economy in terms of arithmetic averages. Their aim is to describe a given situation, not to analyse the nature of possible change in the situation. Because of this, such studies do not need to make any assumption regarding the structural relations of the economy, but can proceed solely on the basis of a set of accounting identities. Input-output analysis, however, is concerned to discuss change, and the attempt to do this immediately involves us in the

7. Much work remains to be done on the aggregation problem. Comparison of results obtained from the 40 sector and 20 sector inverses shows that results may vary significantly with the degree of aggregation.

nature of structural relations, most notably in the nature of technology. It seems desirable to set out something of our approach to this because our view of technology must condition all attempts at input-output analysis.

Studies of Australian industries show that they are usually characterized by a rising trend in output[8] and (though not always) by technical progress. Because our studies of materials and services input coefficients show many of them to be comparatively steady and few of them to have any clear trend, the main impact of this technical progress in input-output models is held to be through falling labour input coefficients. This generalization is of course modified by the appearance of new materials, by the development of new methods of producing old materials (both of which give rise to substitution) and especially by input substitution among fuels, packaging materials and transport service inputs. Nonetheless, it is clear that the method of treating labour coefficients in input-output analysis merits special appraisal.

Study of official series suggests that the characteristic relationship between employment and output in Australian manufacturing industry is as follows (refer Figure 1):

(i) NA is the expansion path showing the long-run historical relation of labour to output. All expansion is along this path which incorporates the effects of innovation, overheads and external economies. (With available Australian statistics it also reflects changing overtime and changes in the length of the standard working week.)[9]

(ii) XY is the short-term contraction path. The angle of the line is comparatively flat *both* because some labour is a genuine overhead in plant operations and because in an industry which plans in terms of long-run expansion some short-term disguised unemployment is tolerated in order to hold skilled crews together.

(iii) Long-run contraction, should it occur, would be along the ray XN which does not include any short-term disguised unemployment. The intercept ON measures genuine labour overheads which are independent of sales expectations.[10]

The implications of Figure 1 for input-output analysis differ according to the application in mind. Thus for an input-output study of the long-term effects of immigration, it is the expansion path which is of concern. For a study of the effects of a contraction in investment demand, it is the path XY or XN which is relevant.

8. It is of course common for such industries to experience occasional temporary falls in output, notwithstanding the secular trend.

9. The expansion path need not be positively inclined.

10. A fourth relation may become relevant if plant size is small relatively to the change in demand for industry's output. For then a fall in demand may result in shutting down a plant, so that overheads within that plant become variable inputs for the industry. Contraction of output is then along a ray through the origin O.

However, although we may believe that Figure 1 portrays the characteristic relations between employment and output, it is difficult to translate this approach into actual statistics. So long as there is technical change, it is in general impossible to specify the parameters of any production function from time series data—for these series may

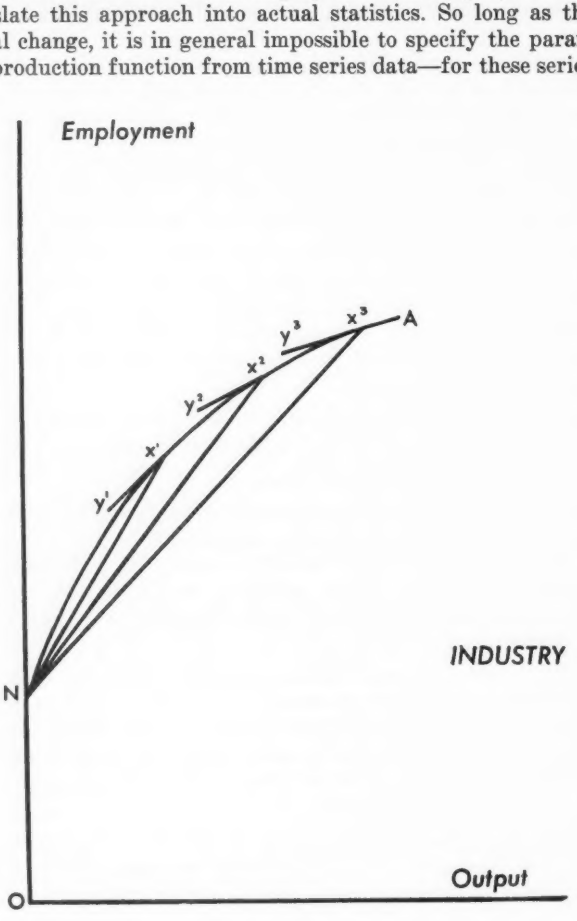

FIG. 1.

consist of one reading only from each of a number of functions. For example, the attempt to relate the observations X^1, X^2 and X^3 by a straight line of best fit would give a wholly misleading picture of technology in year 3. Technical progress in an expanding industry generates an *apparent* fixed element in the labour input, evidenced by the positive intercept on the vertical axis of the line of best fit—the reader may draw this through X^1, X^2 and X^3—which is greater than the true intercept ON. Moreover, the slope of this line of best fit is

determined to a major extent by the elasticity of demand for the commodity and not by the characteristics of technology.[11]

It is clear that the possibility of using Tables I and II in an input-output analysis of, say, the effects of falling investment depend upon our ability to specify the slopes of XY or of XN for each industry.[12] The obstacles to obtaining this information are three. First, although the slope of XY can be estimated in isolated cases (see Table VIII for examples), there is no possibility of obtaining such recent information for all industries because many have not had significant falls in output for a decade or longer. Second, the attempt to estimate the slope of XN

TABLE VIII

Labour-Output Relations in Recession: Some manufacturing industries

Industry	Year	Labour/output ratio	Marginal labour coefficient in next year's output fall
Flourmilling men/m. ton	1952-53	0·00481	0·00228
Ice cream men/'000 gal.	1951-52	0·0000872	0·0000237
Sawmills men/m.sup. ft.	1951-52	0·0000198	0·0000173
Tanning men/m. sq. ft.	1950-51	0·000057	0·0000408
Briquetting men/m. ton	1949-50	0·00071	0·000013
Brickworks men/mil.	1951-52	0·0000131	0·0000046
Cotton mills men/m. lb.	1951-52	0·000257	0·00017
Woollen mills men/m. sq. yd.	1950-51	0·000642	0·00035

is dogged by the fact that technical change generates apparent overheads. Third, many industries present serious difficulty in obtaining an index of output. These last two difficulties in estimating the slope of XN are so serious that the attempt would have been abandoned but for the importance of having some notion of the magnitude of this built-in stability of the economy implied in the existence of overheads. Accordingly labour-output charts of some 150 industries were scrutinized and conservative estimates made of labour overheads in 1953-4

11. This comment on the slope of the line of best fit may be emphasized by pointing out that the slope of the expansion path (and, roughly, of the line of best fit) is only positive if the rate of expansion of output is greater than the rate of productivity increase, and there is no reason why this should be so.

12. Such input-output analysis is also premised upon the assumption of constant commodity input coefficients and constant import coefficients. Study of the time series suggests that these are, in general, reasonable assumptions as a first approximation to the analysis of short-run change.

These assumptions also imply that we can use the results in Table III (column c) as showing the effect of a *change* in unit final demand upon total imports. For example, a £1m. fall in demand for vehicles is estimated to cause a fall in imports of £0·3m. in 1953-4.

TABLE IX

Labour Overheads, 1953-4

Industry	Overheads (employment) '000 persons	Marginal wage coefficient
1. Sheep	179·006	0
2. Other rural	317·604	0
3. Beer, tobacco	2·4	0·029256
4. Foodstuffs	14·75	0·104797
5. Woodworking	9·4	0·236488
6. Paper, printing	9·3	0·228992
7. Chemicals	15·1	0·113417
8. Textiles	23·5	0·162352
9. Black coal	0	0·313186
10. Brown coal	0	0·265433
11. Other mining	0	0·248300
12. Non-ferrous rolling	1·9	0·047526
13. Non-ferrous founding	0	0·324275
14. Oil refining	0·5	0·004985
15. Coke	0	0·101481
16. Electricity	9·0	0·023098
17. Gas	0·5	0·108948
18. Briquetting	0·1	0·192858
19. Iron and steel	2·8	0·181625
20. Radio and electrical	7·0	0·240625
21. Motor vehicles: assembly	5·0	0·040344
22. „ „ parts	7·0	0·132989
23. „ „ repairs	0	0·397296
24. Ferrous castings	0	0·219060
25. Rolling stock	40·0	0·038551
26. Ships	0	0·526967
27. Tractors, agricultural machinery	3·8	0·103468
28. Sheet metal products	2·5	0·179012
29. Pipes	2·0	0·126016
30. Wire	3·0	0·148928
31. Stoves	2·9	0·093150
32. Refrigerators	2·9	0·024057
33. Engineering	38·1	0·150422
34. Building, etc.	63·404	0·336073
35. Rail transport	16·0	0·595655
36. Road transport	30·773	0·427344
37. Airways	3·079	0·357860
38. Shipping	9·654	0·467100
39. Commerce	309·751	0·224729
40. Other services	209·392	0·139621

TABLE X

Effect of £1m. Change in Investment Demand Upon National Wage Bill: 1953-4 Constant Wage Rates

Product of industry	Changes in wages £m.
Radio and electrical	0·359
Motor vehicle assembly	0·229
Motor vehicle parts	0·232
Rolling stock	0·12
Tractors, agricultural machinery	0·253
Engineering	0·293
Building and construction	0·494

corresponding to the intercept ON. These estimates are intentionally conservative because it is necessary to guard against the bias introduced by technical progress. The estimates are shown in the first column of Table IX while the second column shows the consequent marginal wage coefficients.[13]

The marginal wage coefficients in Table IX can be used, together with Table II, to estimate the effect on wages of a fall of £1m. in final demand for various types of investment good. Table X shows the results of such a calculation for investment goods in respect of which aggregate final demand in 1953-4 exceeded £50m.[14] For example, the table shows that in 1953-4 a fall in demand for motor vehicles of £1m. could be expected to result in a fall in wages throughout all industries of £0·229m. This figure may be compared with the average wage content of £1m. from Table III, viz. £0·3185m. Table X illustrates how we may attempt to allow for the existence of labour overheads in estimating the effect of changes in final demand. In using the results of such calculations it should be remembered not only that the estimates of overheads in Table IX are rather uncertain but also that in an economy geared to expansion labour overheads may be substantially greater because of a willingness to tolerate short-term disguised unemployment.

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Mathematical Note

Competing imports are shown in this transactions table as an input into the home import-competing industry. The outflow from the industry is therefore not "output" but "total available supplies" of the commodity concerned. The relationship for Row 1 of the table then is

$$y_1 = S_1 - x_{12} - x_{13} - \ldots - x_{1,40} \ldots\ldots\ldots\ldots \text{(I)}$$

where S_1 is total supplies (output *plus* imports) of the commodity produced by industry 1, y_1 is final demand, x_{12} is the input of 1 into industry 2.

Let $x_{12} = a_{12}S_2$; $x_{13} = a_{13}S_3$, etc.

For the purposes of Section 2 of this paper, the above equation (I) is an *ex post* accounting identity (including given stock changes), while the coefficients a_{ij} are defined as giving the "average input content" for that level of supplies and not relevant to any other level of supplies.

13. It was assumed that all labour is an overhead in rural industry and that no labour is an overhead in mining. Labour-output charts were drawn up for individual manufacturing industries for periods varying from seven to thirty years according to the availability of reliable data. S. P. Stevens' ANZAAS paper (Section G, January 1953) was used as a source of production indices. It was assumed that labour overheads are zero in building because the data are inconclusive. In commerce, real G.N.P. was used as an index of sales volume. Since it happens that for all manufacturing the estimate of employee overheads is around 17 per cent of total employees, it seemed reasonable to suppose that employee overheads were at least of this order in railroads, airways and shipping. In other services it was assumed that all employees in financial and communications services are overheads and that there are no other employee overheads in this sector.

14. Since exports of these commodities are small relatively to aggregate final demand for them, it has been assumed for speed of calculation that all components of aggregate final demand for a commodity have the same factor content. Refer footnote 3 above.

For the purpose of Section 3 of this paper, the coefficients a_{ij} are assumed to be the average and marginal technical input coefficients, the unit of measurement being the quantity purchasable in 1953-4 for £1m. We are also necessarily involved in the assumption that purchasers either did not change their stocks of inputs or, if they did, that changes in stocks of inputs are proportional to change in output. In input-output analysis equation (I) is now to be regarded as an *ex ante* condition of equilibrium.

The forty equations (I) yield a general solution of the form

$$\left.\begin{aligned} S_1 &= A_{11}y_1 + A_{12}y_2 + A_{13}y_3 + \ldots + A_{1,40}y_{40} \\ S_2 &= A_{21}y_1 + A_{22}y_2 + A_{23}y_3 + \ldots + A_{2,40}y_{40} \\ &\text{etc.} \end{aligned}\right\} \quad \text{(II)}$$

In this general solution the A_{ij} are the elements of the matrix in Table II.

The above equations may be compared with those used in the *Economic Record*, December 1957, p. 356, specifically with regard to the different treatment of internal sales, imports and the use of producer's values.

INSTITUTIONAL INVESTMENT IN LISTED COMPANY SECURITIES

It is often claimed that, in many Western European countries and in the United States institutional investors—insurance companies, pension funds, investment trusts, etc.—have, in the post-war period, come to occupy a dominant place in the new issue market. Whether or not this is so overseas, it is certainly not yet the case in Australia—at least not in the market for company securities. It is, unfortunately, impossible to make accurate estimates of the volume of funds flowing into the company new issue market through the various institutions. It is believed, however, that the estimates made below are of the right order of magnitude. If they are, then it would appear that institutional investors currently account for only about 20 per cent of the funds raised by companies through the new issue market. While it is true that this proportion is very much higher than that which obtained before the war and while it has to be remembered that institutional investors have also made available considerable amounts to companies other than through the new issue market—notably by the direct placement of preference shares and debentures and by mortgage loans—it is still the case in Australia that the bulk of the finance obtained by companies by the issue of securities is supplied by private investors.

Life Insurance Offices

The institutions with by far the greatest volume of funds currently becoming available for investment in the new issue market are the life insurance offices. Information about their aggregate lending in Australia is available in the returns published by the Commonwealth Bureau of Census and Statistics in the *Finance Bulletins*. This, in turn, is derived from statutory returns filled with the Commonwealth Life Insurance Commissioner. Unfortunately these returns were drawn up with the interest of the actuary rather than the economist in mind with the result that, while it is possible to obtain from them a reasonably accurate broad view of the flows of funds through the life offices, the returns fail to throw much light on many of the more detailed problems of the capital market. In particular, the classification of assets is such that it is impossible to gain from them accurate measures of the flow of funds into the various sectors of the capital market or even of the total flow of life assurance savings in Australia.

Some of these difficulties derive from the fact that the major Australian life offices do not confine their activities to Australia but also conduct extensive business in New Zealand, the United Kingdom and South Africa and they are not required by law to publish all details of their purely Australian business. It is this fact, for instance, which makes it difficult to derive accurate estimates of Australian savings through life assurance. Details are available of Australian receipts from premiums and annuities and of payments to Australian policy

holders, but there are no separate Australian figures available for income received from interest, dividends and rents or for various items of expenditure, namely expenses of management, taxation, dividends and "other" expenses. It is a pity that it should be necessary to make rough and ready estimates of the Australian proportion of these items in order to obtain an estimate of such an important component of national savings as life assurance savings. While it may be admitted that the life offices concerned might well find it difficult to make a precise allocation of all items of income and expenditure between their Australian and overseas business they are, presumably, in a better position to make this allocation than any outsider.

As has already been indicated it is not only the income statement which is inadequate for anyone concerned with an economic analysis of life assurance activities but also the classification of assets. In the context of this discussion it is important to know how much the life offices are lending to companies and what proportion of that amount flows through the public capital market. This information is not available from the returns in their present form. On the one hand it is well known that the life offices lend companies considerable sums on mortgage but with one omnibus item "loans on mortgage" it is impossible to tell how much. On the other hand the items "debentures", "preference shares" and "ordinary shares" consist of a mixture of amounts made available to companies partly through direct negotiation and partly through purchases on the various Australian stock exchanges. A further complication is that in the published returns the item "other loans" includes substantial sums lent to companies in the form of notes.[1] To overcome these difficulties the life offices should be required: to break down mortgages, if not according to type of borrower, then at least by nature of industry along lines comparable to those available in the classification of bank advances; to provide a separate item for notes; and to subdivide notes, debentures, preference and ordinary shares along the lines required by the Victorian Companies' Act, i.e. into "listed" and "unlisted".

While it is the case, then, that life assurance data are inadequate it is nevertheless possible to make some meaningful comments on the character of life assurance lending in the post-war period. The year 1947 has been chosen as a starting point rather than 1946, because this was the first year during which accounts were drawn up along lines required by the Commonwealth Life Insurance Act 1947. Figures for earlier years are not directly comparable with the post 1947 series. Two tables have been constructed to illustrate the developments that have occurred. The first, Table I, shows the aggregate distribution of life assurance assets held in Australia in 1947 and in 1956. The second, Table II, provides estimates, derived from balance sheet differences, of the annual flow of funds into different types of asset between those

1. Through the courtesy of the Commonwealth Statistician the amounts involved here have been deducted from other loans and transferred to "debentures and notes" in Tables I and II below.

dates. The balance sheets of the twenty odd life offices operating in Australia are drawn up at various dates but relate predominantly to 31st December.[2] The annual flows are then roughly for calendar years.

TABLE I

Life Assurance Assets held in Australia 1947 and 1956

	1947		1956*	
	£m.	%	£m.	%
Fixed assets	13·0	3·5	31·1	4·2
Loans on mortgage	47·1	13·2	230·7	31·2
„ „ debentures and shares ..	(a)		1·9	0·3
„ „ policies	15·8	4·4	29·3	4·0
Other loans	3·6	1·0	18·9	2·6
Australian Government securities ..	207·2	58·1	210·8	28·5
Securities of local and semi-govt. bodies	49·0	13·7	115·4	15·6
Debentures and notes	4·2	1·2	49·3	6·7
Preference shares	1·6	0·4	15·2	2·0
Ordinary shares	4·2	1·2	19·2	2·6
Holdings in controlled companies ..	1·1	0·3	3·2	0·4
Cash	2·9	0·8	1·6	0·2
Other assets	7·4	2·1	12·8	1·7
Total assets held in Australia ..	357·1	100·0	739·5	100·0

Note: Tables may not add exactly because of rounding.
* Preliminary figures. (a) Less than £50,000.

Source: Derived from Commonwealth Bureau of Census and Statistics *Finance Bulletin*.

Table I highlights the changes that occurred in the holdings of assets held in Australia by the life offices in roughly the first post-war decade. As in other Western type economies the Australian life offices emerged from the Second World War with their investment portfolios containing disproportionately large holdings of government securities. Even apart from considerations of the yields obtainable from government securities the life offices would have been concerned in the early port-war years to return to a more diversified pattern of asset holdings.[3] The low yields on government securities obtaining at this time greatly reinforced this desire. At the same time supplies of the other types of securities in which Australian life offices have been traditionally interested—those of local and semi-governmental bodies and mortgages on houses, on urban buildings and factories—became readily available. In addition the life office offices made significant investments in what was for them virtually a new field, namely company debentures, notes, preference and ordinary shares. By the end of 1956,

2. At least 65 per cent of total Australian assets was held by companies balancing on 31st September, 1956. At least another 25 per cent was held by companies balancing on 30th September, 1956.

3. For a discussion of the similar type of movement which occurred in the United Kingdom over the same period see G. Clayton & W. T. Osborn Insurance Companies and the Capital Market. *The Three Banks Review*, March 1958, pp. 21-35.

the combined effects of these trends in life office lending had resulted in an investment portfolio comparable to that which had obtained before the war. Indeed it was considerably more diversified than the inter-war one. Not only had there been large scale investment in the new types of asset, namely company securities, but also their failure to make a net addition to their holdings of Commonwealth government securities over a period when their total assets within Australia more than doubled meant that, by 1956, they were holding a smaller proportion of government securities of all types than they had held at any time since the First World War.

Before examining the annual movements in life office assets as illustrated in Table II, some comment on their accuracy is necessary. First it should be noted that as the series is derived from balance sheet differences and as there is some variation in the balancing dates[4] the figures cannot be exact annual flows. Secondly they include a number of relatively small changes due to revaluations of assets. Finally they include changes in assets resulting from changes in the definition of "Australian" assets. These latter changes are of sufficient magnitude to need further consideration. That there is something wrong about the published annual series of Australian assets is indicated by the fluctuations in the annual increases—when one would expect, *a priori*, in these years, that there would in fact be continual increases in the life offices holding of Australian assets. These fluctuations remain in the Australian series even when allowance is made for the use of bank overdraft, which in a few of the years concerned was quite substantial. They do not occur in the movement of total Australian and overseas assets (last row of table) nor do they occur in the estimates of Australian life office savings derived from the income accounts (second last row). In fact, it turns out that the major abnormal movement in the series of assets held in Australia, in 1953, arises from a change in the definition of assets held in Australia by one of the major offices. Before 1953 it had defined assets held in Australia as assets held there on behalf of Australian policy-holders. In that year it adopted the definition, total assets held in Australia regardless of the location of the policy-holders on whose behalf the assets were held. Some £7·2m. was involved in this change in definition, of which approximately £2m. were holdings of Commonwealth Government securities and the bulk of the remainder securities of local and semi-governmental authorities. This means that the actual increase in the former item in 1953 was about £10m., and in the latter about £12m., the increase in total assets held in Australia being £43·1m.[5]

The annual changes (in Table II) that are of particular interest in the context of this discussion are those in debentures and notes, preference and ordinary shares. As has already been indicated, movements in these items do not reflect either total life office lending to companies or their purchases through the mechanism of the public capital market.

4. See n. 2 above.

5. The writer is indebted to Mr. J. Anderson of the Commonwealth Bureau of Census and Statistics for clarification of this point.

As shots in the dark it may be suggested that it is not unlikely that at least as much was lent to companies on mortgages in this period as was invested in debentures and notes and that perhaps one-half of the debentures and notes, one-half of the preference shares and virtually all the ordinary shares were acquired through the public market. If these guesses are of the right order of magnitude then it would appear that about one-third of life office net new lending in the period from 1947 to 1956 was to companies and perhaps something like one-tenth of it through the public capital market for company securities. While it is impossible to be sure without detailed work on the records of the life offices it is highly probable that lending by the life offices on this scale to companies or, even more generally, to non-farm business enterprises is unprecedented. It is certainly the case that the substantial investment through the public capital market is a new departure for them. The latter development has received some comment in the financial press, the size of the former movement seems to have gone unnoticed.

While the life offices' entry into the share market was virtually a post-war phenomenon, preparations for such an entry had been under way for the best part of a decade before then.[6] Thus in 1937 the Australian Mutual Provident Society sent its general manager abroad to report on the activities of life offices in the United Kingdom, Canada and the United States. On the basis of his report an Amending Bill to the Society's Act of Incorporation was prepared and subsequently passed in 1941 as the "Australian Mutual Provident Society's (Amendment) Act 1941". Amongst other things this Act withdrew the restrictions placed on its investment policy by its previously operative 1910 Act of Incorporation. Supplementary alterations to the Society's own investment by-laws were made in 1943. While the war continued, however, the Society did not take advantage of its new powers and it was not until its 1946 balance sheet (31st December) that the items "preference shares" and "ordinary shares" made their appearance.[7] Other leading life offices had been amending their investment powers at about the same time as the Australian Mutual Provident Society but, likewise, did not use their new powers until after the end of the war.

In assessing the nature and significance of life office investment in the share market some comment is necessary on the character of their investments in this field. The first point to note is that their individual investments are relatively large.[8] Some indication that this is so is pro-

6. One of the smaller life offices, the Australian Provincial Assurance Association Ltd. made much of its investment in equities in the late 1920's but its example was not followed by the major offices so that it was of little quantitative importance. See J. McB. Grant, *Life Assurance in Australia and its Economic Consequences.* Unpublished M.Sc. Thesis, Adelaide, 1952, pp. 86-7.

7. The above details are taken from the annual chairman's address of the Australian Mutual Provident Society 1937 *et. seq.*

8. It should be noted that these remarks relate to purchases made on the public market. Individual private placements of debentures of over one million pounds and of preference shares of several hundred thousand pounds are not exceptional. *Cf.* the detail included in J. McB. Grant, *op. cit.* Appendices III and IV, pp. 171 *et. seq.*

vided by data in the appendix to E. C. Wheelwright's *Ownership and Control of Australian Companies*, which show average holdings of £20,000 nominal value or at least £30,000 cost price. This information is not however conclusive as it excludes holdings by life offices of less than £10,000 nominal value. It also seems probable, but once again the data are not such as to make it certain, that the bulk of life office purchases on the public market are in a limited range of companies, i.e. the large ones.[9] In general the kind of securities in which the life offices are interested is indicated by the following statement by the chairman of the National Mutual Life Association. "Our own investments in these securities (stocks and shares) are confined to stocks of companies which have a paid-up capital of not less than £200,000, and which have paid a dividend of at least 4 per cent upon their own ordinary stocks or shares for the five consecutive years immediately preceding the date of purchase: in other words to well-established companies with good records."[10]

As can be seen from the relative importance of their investments in the different types of company securities, the life offices have made little attempt to hedge against inflation on a significant scale. In part this may have been due to their inability to obtain holdings of ordinary shares on the scale required to have any real effect from this point of view.[11] The tenor of remarks appearing in published reports in these years suggests, however, that the basic reason for the life offices' substantial investment in company securities was a desire to increase the overall yield on their investment portfolios rather than an attempt to counteract the effects of inflation. As a result of the cheap money policy adopted to finance the war and of the life offices' support of the bond market during it, over one-third of their assets must have been yielding only 3¼ per cent by 1946. This meant that their average gross interest earnings on their life funds had fallen from about 4·5 per cent in 1939 to 3·8 per cent in 1949, the lowest point of their gross earnings in the post-war period. The size of their low yielding bond holdings has

Life Assurance Assets held in Australia
Net Change from Year to Year
(£m.)

9. Wheelwright's data relate primarily to 1953. In that year the value of the life offices' holdings of Australian company ordinary shares according to their balance sheets was £14m. The separate Australian life office holdings of ordinary shares, in the 90 companies surveyed by Wheelwright in which it was possible for them to invest in ordinary shares and for which the required detailed information is available, amounted to £4·85m. nominal value or at least £7m. cost price to the life offices. When it is remembered that separate figures for the individual Australian life offices would only have been taken out by Wheelwright if their holding in a particular company was greater than £10,000 nominal value, it would appear that perhaps three-quarters of the life offices' holdings of ordinary shares was in these 90 large companies which at this date probably accounted for about half the total listed capital of Australian registered companies on the Australian Stock exchanges. See E. L. Wheelwright *Ownership and Control of Australian Companies*, Law Book Co. of Australia, Sydney, 1957, Appendix pp. 124-206 for the detailed lists of shareholdings which provide the basis for this comment.

10. Chairman's address to the National Mutual Life Association of Australia, 16th March, 1949, as reported in the *Australasian Insurance and Banking Record* 1949, p. 152.

11. *Cf.* "In a limited market such as exists in Australia, unrestricted buying by life offices could force up the prices of shares beyond their merits." National Mutual's Chairman's Address, *ibid.*

Life Assurance Assets held in Australia

Net Change from Year to Year

(£m.)

—	1948	1949	1950	1951	1952	1953	1954	1955	1956*	1947–56	% Distribution 1947–56
Fixed assets	0·1	0·6	0·2	0·5	2·0	1·1	1·3	4·3	8·0	18·1	4·7
Loans on mortgage	4·9	9·0	21·9	30·5	22·7	13·5	16·0	32·2	33·0	183·6	47·9
Loans on debentures and shares	(a)	0·1	1·0	0·3	(a)	0·8	(a)	−0·1	−0·1	1·9	0·5
Loans on policies	0·3	0·6	0·3	1·0	2·5	1·2	1·4	2·6	3·6	13·5	3·5
Other loans†	0·5	1·3	4·3	4·6	2·6	0·2	−0·5	−0·2	2·5	15·3	4·0
Australian Government securities	9·1	5·7	−12·4	−15·3	2·1	11·8	5·0	−4·0	1·6	3·6	0·9
Securities of local and semi-govt. authorities	5·1	1·6	7·7	9·7	2·6	17·3	14·9	3·7	4·1	66·4	17·4
Debentures and notes†	0·7	1·6	5·8	6·6	1·3	3·4	6·3	12·9	6·5	45·1	11·8
Preference shares	2·2	3·6	3·1	2·3	−0·1	0·6	0·6	0·7	0·8	13·6	3·5
Ordinary shares	2·3	2·5	1·3	1·1	2·1	0·6	(a)	1·8	3·2	15·0	3·9
Holdings in controlled companies	0·3	0·8	0·4	0·2	0·3	0·1	(a)	0·1	−0·1	2·1	0·6
Cash on deposit, current account and in hand	0·4	1·1	−0·8	−0·9	(a)	0·1	−0·5	0·6	−1·3	−1·3	−0·3
Other assets	0·1	0·4	0·8	0·2	0·5	−0·2	1·0	0·7	1·8	5·4	1·4
Total Australian assets	26·0	28·8	33·4	40·8	38·5	50·3	45·4	55·5	63·7	382·4	100·0
Total Australian assets less increase in bank overdraft‡	25·9	28·7	32·4	39·0	38·8	50·4	45·4	54·1	64·3	—	—
Estimated Life Assurance savings	26·3	28·8	31·3	36·1	38·5	42·7	48·7	55·0	(62·0)	—	—
Change in total Australian and oversea assets less change in bank overdraft	32·6	37·5	44·0	48·6	49·8	58·6	65·2	72·2	79·7	—	—

† These items differ from those published in the *Finance Bulletins* in that holdings of notes included in "other loans" have been transferred to debentures.

‡ The bank overdraft figures used relate to total (Australian and overseas) business and hence this series may involve some understatement of the increase in assets held in Australia.

Source: Derived from Commonwealth Bureau of Census and Statistics *Finance Bulletins*.

Note: Tables may not add up exactly because of Sundries.

(a) Less than ± £50,000.

* Preliminary figures.

also been such that, despite their movement out of bonds and the progressive increases in bond rate from 3¼ per cent in 1950 to 5 per cent in 1956-7, their average gross interest earnings had only risen sluggishly to 4·4 per cent in 1955.[12]

Partly because of the inadequate nature of the statistics and partly because Australian life business is dominated by six large offices, independent action by any one of which would be sufficient to alter the average behaviour suggested by the aggregate figures, it is difficult to generalize about life office investment policy in relation to the public capital market for company securities as is indicated in Table II. The following suggestions may, however, be worth considering. Until the end of 1949 life office funds were probably accumulating at a greater rate than were the demands on them from their traditional borrowers. On the one hand the profitability of rural enterprise was such that rural mortgages were being repaid, on the other hand non-farm business enterprises and individuals were probably still able to draw substantially on liquid asset holdings acquired during the war. This appears to be the background to the substantial investment (over 20 per cent of net additions to total assets in 1948-9) in ordinary and preference shares in these years; to the unorthodox life office investment by the Australian Mutual Provident Society in virgin land development in South-East Australia; and to the remark that "Whatever steps may be taken to broaden the investment field, Government loans (at 3½ per cent) must remain an important avenue of investment."[13] In 1950 and 1951 booming demands for finance for housing, public works and non-farm business enterprises could only be met by substantial liquidation—despite the remarks made in 1949 that have just been quoted—of holdings of Government securities. This re-allocation of resources permitted continued investment in shares—but at a reduced rate—and substantial investment in debentures and notes.

By the end of 1951 the life offices had clearly over-committed themselves as is indicated by the rise in their bank overdraft from £1·2m. in 1950 to £3·1m. in 1951.[14] The first post-war break in the bond market from 3½ per cent to 3¾ per cent in June 1951 probably contributed to this situation. Almost certainly the second break in April-May 1952 to 4½ per cent, given the attitude of life offices to capital losses, meant that substantial recourse to the bond market in order to obtain funds for re-investment elsewhere was, temporarily at least, no longer possible. Similarly the 1951-2 slump in share prices may well

12. The rates from 1949 and 1955 are taken from the *Annual Reports* of the Life Insurance Commissioner, that for 1939 is based on the experience of the Australian Mutual Provident Society (4·4 per cent in 1939). Because of differences in definition these rates are not directly comparable. The A.M.P. rate for 1939 would have been higher if calculated on the same basis as the others.

13. Australian Mutual Provident Society's Chairman in his address to the Society's 100th Annual Meeting, 3rd June, 1949.

14. *Cf.* also "So far as this Society is concerned, it is clear that we have stretched our resources to the utmost—and, as our bank overdraft shows, perhaps a little further—to assist those who need our help." Australian Mutual Provident Society's Chairman's address, 13th June, 1952.

have given the life offices cause to think about this outlet for their funds. Under these circumstances, with a decline in the demand for housing and, probably, non-farm business mortgages, doubts about the share market, and higher bond rates, it was government securities and public works which felt the benefit of the continued increase in the funds available for investment by the life offices in 1953 and 1954.[15] Their day was however short-lived. With the return of more or less boom conditions in the private sector in 1955 and 1956, lending to public authorities fell off. Party, perhaps, because of shifts in the types of security now being offered by companies, the share market also failed to recover its early post-war relative importance.

Private Superannuation Funds

One element in the growth of life insurance business in recent years has been the spread of superannuation schemes amongst private employers. As conducted through life offices these schemes date at least from the 1930's, though it was not until the early war years that such schemes received special mention in annual reports.[16] By 1948, however, the Australian Mutual Provident Society was pointing out that "During last year (i.e. 1947) 31 per cent of our new business was written under such schemes . . ."[17] Similarly the National Mutual Life Association reported in 1952 that "Last year in Australia over 40 per cent of our new business was of this nature."[18]

Not all firms, however, particularly not the large ones, make use of the facilities provided by the life offices to establish and manage superannuation schemes. Separately constituted private funds, which date at least from 1890 in Australia, in fact account for a greater proportion of the total funds accruing under these schemes than do those arranged through the life offices.[19] The relative importance of the two types of schemes is indicated by Table III. This table, however, gives a misleading idea of their relative rates of growth, because the coverage of the schemes organized by small firms, which are predominantly arranged with life offices, was substantially greater in the second of the two surveys from which these figures are taken.[20]

These surveys by the Commonwealth Bureau have been a welcome contribution to an important but neglected field of Australian financial statistics. Unfortunately, as in the case of the life office returns but

15. It must be remembered, of course, that the 1953 figures for securities of local and semi-governmental authorities, as presented in Table II, are distorted along the lines discussed on p. 8 above.

16. *Cf.* the appearance in 1937 of a pamphlet on "group assurance" in the list of pamphlets on various aspects of life insurance which the Australian Mutual Provident Society used to include in its annual printed Chairman's Addresses.

17. Chairman's address, 4th June, 1948.

18. Chairman's address, 11th March, 1952.

19. The Colonial Sugar Refining Company Ltd. set up a private superannuation fund in 1890. See A. G. Lowndes (Ed.) *South Pacific Enterprise,* Angus & Robertson, Sydney, 1956, p. 252.

20. For details of the differences in coverage see the Commonwealth Bureau of Census and Statistics *Survey of Private Pension and Retiring Allowance Schemes,* 1955-6, p. 8.

TABLE III

Contributions to Private Superannuation Schemes

(£000)

—	Through Life Assurance Companies			Through Separately Constituted Funds		
	By Employees	By Employers	Total	By Employees	By Employers	Total
1951–52	3,425	5,385	8,810	3,749	8,905	12,654
1955–56	6,396	9,940	16,336	5,752	13,230	18,982

Source: Commonwealth Bureau of Census and Statistics
Surveys of Private Superannuation Schemes, 1951-2 and 1955-6

with rather more justification, they are not sufficiently detailed for many of the purposes of this inquiry. In particular the classification of assets does not distinguish between ordinary and preference shares and listed and unlisted securities, nor does it indicate how far these schemes have been infringing one of the golden rules of superannuation investment, i.e. how far funds have been invested in the securities of the companies which have themselves been responsible for setting up the schemes.

The importance of the privately constituted funds is indicated by the fact that, at least since 1951-2, they have had at their disposal a net flow of funds roughly equal to one-third of that accruing to the life offices, i.e. about £20m. in 1955-6. In the investment of these funds, as the following comparison suggests, they have been both more conservative and more venturesome than the life offices. More conservative in that they hold a substantially higher proportion of their assets in

Percentage Distribution of Assets 1956

—	Cash	Commonwealth Bonds	Local and semi-govt. Securities	Loans on Mortgage	Debentures	Shares in Companies	Other Assets	Total
Private Pension Funds	8	30	25	7	11	13	6	100·0
Life Insurance	·2	28·5	15·6	31·2	6·7	4·6	13·2	100·0

cash and government and semi-governmental securities, more venturesome in having a much higher proportion of their funds in companies' shares. They have not, however, over the last four years at least, been significantly increasing the proportion of their assets held in this form, the proportion being 12 per cent in 1951-2. In so far as they have been varying their portfolios they have been investing relatively less in Commonwealth Government securities and more in those of local and semi-governmental authorities and in company debentures.

N.S.W. State Superannuation Fund

There is one other pension fund that should also be mentioned here, namely the N.S.W. State Superannuation Fund which had its statutory

investment powers altered in 1948 so that it could be permitted to invest in company securities. This appears to be the only government pension fund which has taken action of this kind. Details of its holdings are not published but the N.S.W. Government Auditor-General's Report has given the total amount outstanding in each year since 1953.

TABLE IV

Investment in Company Shares and Debentures by the New South Wales Superannuation Board
(£000)

	1953	1954	1955	1956	1957
Amount invested at 30th June ..	4,934	5,806	6,268	8,015	9,569
Net annual increase		872	462	1,747	1,554
Net increase as per cent of total net increase in Fund		16·3	8·0	26·3	21·3

Source: *Annual Reports* of the N.S.W. Government Auditor-General

Quite clearly as Table IV indicates, the Superannuation Board has not hesitated to make good use of its new powers though it is still well within the statutory requirement limiting its investments in this form to 25 per cent of the total fund. It is worth noting that its purchases are made within even a narrower range of securities than that available to the life offices. That this is so follows from its statutory requirements that it only invest in the debentures and preference shares of companies which have paid a dividend of at least 3 per cent on their ordinary shares for at least five years before the time of investment and in ordinary shares of companies which have paid dividends of at least 4 per cent for at least ten years, the companies being ones with paid up capital of not less than £500,000.[21]

General Insurance Companies—Fire, Accident, Marine, etc.

Another important group of institutional investors are the general insurance companies—i.e. those concerned with fire, accident, marine, etc., business. Unfortunately, there are no official statistics relating to their asset holdings. Further, a substantial proportion of this type of business is conducted by branches of oversea companies which do not publish figures for their Australian business. Finally many of the published accounts of Australian companies of this type give a quite inadequate classification of their assets. For all these reasons, then, it is possible to make only very rough estimates of the investment behaviour of the general insurance companies. Even more so than in the case of the life offices, it is time that these companies should be required to provide useful data on their operations.

Such estimates as it has been possible to make suggest that the total amount of funds entering the capital market for company securities through these companies was of the order of £2m. around 1956.

21. For details of these requirements see the Superannuation (Amendment) Act. N.S.W. Statutes No. 9, 1948.

The basis of this calculation is as follows: the accounts of 21 Australian companies, as published in the *Australasian Insurance and Banking Record*, indicated that in 1955 these companies held company securities worth £6,164,000 out of total assets of £54,856,000.[22] In 1956 these holdings had increased to £6,907,000 out of a total of £59,466,000. In 1954-5 this same group of companies appears to have received about 35 per cent of the total investment income of all general insurance companies as published in the official (*Finance Bulletin*) returns of income and expenditure of the general insurance companies. If this ratio (35 per cent) is applied to the increase in holdings of company securities by the 21 companies in 1955-6 (£750,000), it would appear that some £2m. was invested in company securities in that year by all general insurance companies. This calculation is, of course, dependent on the assumption that the companies for whom balance sheets are not available held company securities in the same proportion (11 per cent) to total assets as did the 21 companies. There is no reason for believing that this assumption is unrealistic and hence a fair chance that the above calculation yields an estimate of the right order of magnitude. Unfortunately, however, it is impossible to gauge what proportions of this amount were invested in the different types of company securities.

Management Investment Trusts

In some countries, notably the United Kingdom, management investment trusts are, or have been at various times, important institutional investors. This is not the case in Australia. While there were eighteen such listed companies at 30th June, 1956, three of which were almost thirty years old, they had an aggregate paid-up capital of only £5·5m. at that date. Unlike their British prototypes their capital was entirely in ordinary shares, no use had been made of debentures and their external liabilities were almost wholly of a short-term nature—mainly taxation and dividend provisions and bank overdraft. This, together with the fact that they have retained only a relatively small proportion of their earnings, means that their entire holding of securities amounted to only about £8m. It is true that this amount was a substantial increase on the £1·1m. capital (about £1·5m. total investments) of the six listed companies at 30th June, 1946. Most of the increase in these holdings of company securities was, however, financed through new share issues and it is doubtful whether much of these issues represented net new money for investment in company securities. This is so, in particular, because the majority of management investment trusts are intimately connected with share broking firms and it is probable that the bulk of the new issues has been subscribed by the existing clientele of those firms. There seem to be good grounds for believing, then, that management investment trusts are responsible for only about one quarter of a million pounds of the net new money currently coming on to the new issue market in Australia.

22. Wherever possible holdings of non-listed company securities were excluded from this calculation.

Unit Trusts

Unit trusts are operated by managers who purchase, in the market, relatively large parcels of shares in a particular group (fixed unit) or within a particular range (flexible unit) of companies. The securities are deposited with Trustees and certificates representing fractional units or sub-units are sold to the public. In order to give marketability to the sub-units, once a trust is established the managers are prepared to re-buy and re-sell sub-units at a price determined by the current prices of the underlying parcel of securities, subject to a fixed margin between buying and selling prices. Unlike the management investment trusts, the unit trust movement, which was founded in Australia in 1936, has expanded vigorously in the post-war period.[23] Two fixed unit trusts—one centred in Brisbane, the other in Sydney—have been responsible for this development. The latter has been particularly active. Not only has it established subsidiary companies or branches in each of the State capital cities, it has also, within New South Wales at least, set up branches in three of the major country centres—Newcastle, Wollongong and Wagga Wagga—and a network of agencies with chartered accountants, solicitors, etc., in over ninety (early 1958) country towns. To provide business for this large number of selling points it has undertaken an extensive advertising programme making use of such media as pamphlets, circular letters, and large-scale advertisements in the daily and financial press and over the radio.

The results of this activity are indicated in Table V which gives the number of units (roughly equivalent to one pound) which had been issued at various times since 1951. These figures are not exact

TABLE V

Unit Investment Trusts

'000 units issued

	30th April 1951	31st December 1955	31st December 1956
"Sydney" trusts	1,855	13,761	18,337
"Brisbane" trusts	2,423	3,904	3,758
Total	4,278	17,665	22,095

Source: Jobson's *Digest Year Book of Public Companies* 1951, 1956, 1957

indications of the purchase of securities. On the one hand it is not clear whether the returns were complete at the dates given in the table, on the other the price of the units generally includes the cost of establishing and managing the trusts, a cost which seems to range from 7½ per cent to 10 per cent of the purchase price of the actual securities themselves. When allowance is made for these facts, it would appear that, by 1956, some £4m. was being invested annually through unit trusts—the whole of this amount being invested in ordinary shares.

23. Even greater expansion now seems likely with the decision of the Bank of New South Wales and the Australia and New Zealand Bank to enter the unit-trust field.

Investment on this scale is quite significant, particularly when account is taken of the relatively narrow markets for company securities in Australia. There are, indeed, hints that the success of the movement has been such that the managers have been forced to change their types of trust. Thus the Sydney managers originally offered fixed trusts based on the securities of 20 companies. In 1954 they had increased this number to 30 and in 1955 to 40. In the meanwhile, in 1948, they had begun offering flexible unit trusts and it is in this form that the bulk of their business is now done. Further evidence of the scale of their operations was given in the dispute which arose between Australian Fixed Trusts Pty. Ltd. (the managers of the Sydney group of trusts) and Clyde Industries Ltd. in November 1956. At that time the trusts held 292,000 shares (market price per share 28/- at 7th November, 1956) in Clyde Industries or 14·7 per cent of the total. The directors of Clyde Industries had apparently become concerned about the size of the voting power represented by this holding and proposed an amendment to the company's articles of association which effectively disenfranchised unit trusts. Despite much criticism from the trusts and an appeal by them to the Equity Court the amendment was adopted. Whether or not the particular restrictions adopted by Clyde Industries were the solution to the problems raised by the scale of the fixed trusts' share holdings is not of concern here, what is important to note in this context is that by 1956 the funds controlled by the fixed trusts had grown to such extent that, for the first time, they could give rise to problems of this type.[24]

Other Non-Financial Companies

Finally, there is the group of institutional investors represented by miscellaneous non-financial companies not included in any of the previous categories. A large number of listed companies, possibly a majority of them, has holdings of shares in other listed companies. For listed companies as a whole, of course, increases in such holdings involve no net addition of available finance. To the extent, however that such securities are held and used as a type of liquid reserve and not merely as a type of trade investment, purchases and sales of listed securities by listed companies can have important effects on the nature of the public capital market, e.g. by increasing the general marketability of listed securities. Unfortunately, while it is possible, with qualifications, to make estimates of changes in the holdings of listed company securities, it is not possible to distinguish between the two categories just mentioned.[25] All that is really worth noting here is that holdings of listed securities by compaines are quite substantial and that at times changes in and increases of them may be important for interpreting the behaviour of the market.

24. For comment on this dispute see *The Sydney Morning Herald* 2nd, 3rd, 4th, 9th November, 1956, and 18th December, 1956.

25. See the writer's *Australian Company Finance*, Canberra, 1956, pp. 49-50, 135 for some estimates of holdings of listed securities by Australian companies; p. 11 for the qualifications to them.

Summing Up

Against the background of the previous discussion it is now possible to make a rough assessment of the size of institutional investment in listed company securities. As has been indicated, certain of the figures in Table VI which attempts to summarize the information collected above, are little more than guesses. It is felt, however, that they

TABLE VI

*Annual Institutional Investment in Listed Company Securities about 1956**

(£m.)	Shares	Debentures and Notes
Life Insurance Offices	2	6
Private Pension Funds	1	1
N.S.W. Government State Superannuation Fund	1	1
General Insurance Companies	1	1
Management Investment Trusts	¼	
Unit Trusts	4	
Total	9	9

* It should also be noted that in recent years the trading banks have invested in one group of listed companies, namely hire-purchase companies. By early 1958 trading bank investment in shares of these companies was about £12m. See Bank of New South Wales *Review* No. 33, May, 1958, p. 7.

are of the right order of magnitude. They are, for instance, certainly not inconsistent with the official estimates of new money raised from banks, life insurance companies and superannuation funds in 1956-7, which were £1·6m. in shares and £6·6m. in debentures, registered notes and deposits.[26]

At about this time, i.e. about 1956, the new money being raised by companies listed on the stock exchanges amounted to about £100m. per annum. If the convention may be accepted, that the money employed by institutions in purchasing existing securities on the stock exchanges eventually finds its way into the new issue market, then it would appear that, by 1956, institutions were supplying directly or indirectly about 20 per cent of the new money raised through the new issue market. As the institutions invested virtually nothing in this fashion during the inter-war period, it is clear that there has been a significant growth of institutional interest in the new issue market in the post-war period. While it is true that this interest could not yet be described as a dominant one, there can, nevertheless, be little doubt that companies must be increasingly concerned, when deciding on the form of their new issues, that they do not conflict with the requirements of institutional investors.

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26. Commonwealth Bureau of Census and Statistics, *New Capital Raisings by Companies in Australia*, quarter ended 30th September, 1957.

THE FINANCE OF PUBLIC INVESTMENT, AUSTRALIA 1948/49—1956/57

This paper attempts to answer a simple question which has often been asked but which, extraordinary as it may seem, no one has been able to answer with any precision: how has Australian public investment been financed in the post-war years? There are, in principle, only four possible sources of finance: (a) current budget surpluses, (b) borrowing from the Australian public, (c) borrowing overseas and (d) central (or trading) bank finance. It might be thought to be an easy matter to ascertain from the wealth of official financial statistics how much of total public investment has been financed from each of these sources. Actually, the conventional and, from an economist's point of view, not always convenient form in which the public accounts are presented makes this a herculean task, even for the Commonwealth alone, let alone for the States and local and semi-governmental authorities. It becomes manageable only because the National Income White Paper goes some way towards bringing the required data together.[1]

From Tables VIII, IX and XI of the 1956/57 White Paper it is possible to piece together a summarized capital account for the public authority sector. But for the purpose of distinguishing the four sources of finance it is not entirely satisfactory. It conceals some relevant items through excessive aggregation (e.g. some direct central bank finance is lumped in with public loan raisings) and it is impossible to separate out the capital account of the Commonwealth from that of the States. This in turn makes it impossible for the user to reconcile the White Paper figures either with the Commonwealth public accounts as given in the budget papers or with the official figures for the Loan Council programme.

The first and main object of this paper is, therefore, threefold. First, to present a capital account of the public authority sector which will show the four sources of finance of public investment for the years 1948/49 to 1956/57. Secondly, to trace back all items in the Commonwealth part of the account, and as many as possible of the States' part, to their sources in the Commonwealth public accounts, so that readers of the White Paper can in future perform the operation themselves, at least for all major items. And thirdly, to reconcile this capital account with the official figures for the Loan Council programme as presented in recent years in the Commonwealth *Budget Speech*. No attempt has been made to extend the search for sources to the public

1. The author must also acknowledge with gratitude the help given to him by officers of the Commonwealth Bureau of Census and Statistics and Commonwealth Treasury, and especially to Mr. R. Jay, Miss K. Gleeson and Mr. R. Daniel. Without their guidance through the Commonwealth public accounts and their explanations of the methods used in the construction of the public authority tables in the White Paper, this paper could not have been written.

accounts of the States and their semi- and local government bodies. Once the Commonwealth capital account is available, the State figures can be obtained by difference from the White Paper.

Capital Account and Sources

Tables I and II present the capital accounts of the Commonwealth (including semi-government bodies) and the States (including semi-government bodies) respectively. Tables III and IV show the published sources from which the accounts can be built up. In the case of the Commonwealth account, it has been possible to trace back almost every item to the public accounts. The only exceptions are a number of items relating to Commonwealth semi-government bodies (e.g. depreciation allowances, and parts of the current surplus) where Table VIII of the White Paper can be relied upon. In the case of the States account, separate references are given only to those items, such as loan raisings and redemptions, which appear in the Commonwealth public accounts. All other items (except S7b) can be obtained by deducting the Commonwealth amount from the total given in Table XI of the White Paper.

Most of the individual items in Tables I-IV are self-explanatory. Those which may not be are explained in notes to Tables III and IV.

Loan Council Programme

The annual Loan Council programme for the finance of the States' works and housing programme was a relatively simple matter until 1950/51. Since 1951/52 when the Commonwealth began to support the programme from its budget surplus and other sources, the financial operations to which it gives rise have assumed great complexity. The main contributions to the finance of the programme have in recent years been explained in one of the attachments to the annual Commonwealth *Budget Speech*. But the figures given there bear, at first glance, no resemblance to those for similarly named items in the budget papers or the White Paper. Table V gives a reconciliation of the Loan Council programme for the years 1951/52 to 1956/57 with the Commonwealth capital account of Table I. Part I of Table V reproduces the table given in the 1956/57 and 1957/58 *Budget Speech* documents. Part II shows, on the model of the data for 1955/56 and 1956/57 given in the same documents, how the Commonwealth's "special assistance" was financed. Part III gives the reconciliation with Table I. As Part III shows, the net balance of all items of the capital account other than those included in the Loan Council programme equals the increase in Commonwealth Trust Fund balances, n.e.i., which appears as the residual item in Part II.

Sources of Finance—Provisional Answer

Table VI gives a provisional answer to the question posed at the beginning of this paper. It presents a consolidated capital account for the whole public authority sector (Commonwealth and States) divided up so as to show the four sources of finance of public investment. (In

the process of aggregation, all transactions between the Commonwealth and States, such as the special loan and Commonwealth advances and capital grants to the States, of course, disappear.) Table VII gives the shares of the four sources of finance in percentages.

In broad outline, the facts which it reveals are, of course, familiar.[2] Much the greater part of the finance of public investment in the post-war years has come from revenue surpluses. Until 1950/51, the domestic loan market still made a major contribution; net loan raisings provided more than half the amounts required for public investment. Between them, revenue surplus and borrowing from the Australian public (including the substantial accumulations of stabilization funds) provided enough money to meet all public investment finance and make possible some redemption of overseas debt and treasury bills. Since 1951/52, the contribution of borrowing from the Australian public has dwindled (to 10 per cent in 1956/57). Revenue surpluses have continued to provide rather more than three-quarters of the amount spent on public investment, most of the deficiency in domestic loan raisings being made up by net borrowing, instead of net redemption, from overseas and from the central bank. Much the greater part of the revenue surplus, of course, represents Commonwealth taxation. Even if we choose to treat all current Commonwealth expenditure as a first charge on tax revenue, of the Commonwealth's own cumulative current surplus over the nine years of £1,717 million, £1,538 million represented surpluses of taxation over current expenditure. It should be remembered, moreover, that the State surpluses came out of revenue to which Commonwealth grants for current purposes made a large contribution. (The cumulative States' surpluses of £569 million compare with a cumulative total of Commonwealth grants to the States for current purposes of £1,332 million.)

The answer to our question provided by Table VI, however, is misleading in one important respect. In suggesting that, over the period as a whole, central bank finance made no net contribution to the finance of public investment, it takes into account direct Government borrowing from the central bank but makes no allowance for the central bank's indirect contribution through other purchases of government securities.

Other Central Bank Finance

The Commonwealth Bank's transactions in government securities, including its open market operations—in marked contrast to the United States where detailed figures are published weekly—are a jealously guarded state secret in Australia. All relevant information is carefully published in a form which conceals the change in central bank holdings of Commonwealth Government bonds.

Table VIII shows the two main methods by which one might expect to deduce this figure, one based on the Commonwealth Bank's annual

2. See the able article on "Financing Public Works", *I.P.A. Review*, October-December 1957.

balance sheet, the other on its statistics of the distribution of bond holdings. One source of error in both methods is the fact that large transactions occur in the last days of June of each year, so that figures relating to June 30 cannot be reconciled with others relating to the average of the four Wednesdays of June. A possible source of error in the second method is changes in Commonwealth Savings Bank (and recently also other savings bank) holdings of treasury bills. Except for the year 1949/50, however, the two methods yield not dissimilar results. Until the authorities make accurate figures available, we cannot do better than take the average results of both methods as indicating the general trend of other central bank finance, including open market operations (Table VIII, Part III). This would suggest that of the £1,029 million, which appear in Table VI as the Australian public's contribution over the nine year period to the finance of public investment through the bond market, some £150 million must really be ascribed to central bank finance.[2a]

One further refinement might be attempted. If we are interested in the contribution to the finance of public investment made by the creation of new money, we cannot confine our attention to central bank finance.[3] Trading banks create money. While we cannot say whether trading bank bond purchases in any year come from new bank money —it depends on what the trading banks would have done with their funds had they not invested them in bonds—there is every reason to assume that part of the increase in trading bank bond holdings over a decade (particularly a decade such as the last in which bank deposits have expanded greatly) has constituted "secondary credit creation". How much should be attributed to this source of finance there seems no way of determining.

What we can show is the contribution to loan finance by the banking system as a whole. Table IX which is based on the Commonwealth Bank's statistics on the distribution of bond holdings[4] shows that of the total increase in non-governmental Australian holdings of Commonwealth bonds over the nine year period of £616 million, the banking system as a whole bought £418 million, all other investors only £189 million. Moreover, almost the whole of the latter contribution was

2a. Since this paper was written, the Commonwealth Bank has momentarily lifted the curtain. Dr. H. C. Coombs, in his R. C. Mills Memorial Lecture on *Conditions of Monetary Policy in Australia*, 29th April, 1958, stated that "the net results of the Central Bank's security transactions were a fall of about £30 million in 1953/54 and increases of about the same size in each of the two following years". This compares with our "estimate" of a fall of £49m. in 1953/54 and increases of £24m. in 1954/55 and £30m. in 1955/56. Unfortunately, it cannot be assumed that our method would always yield such lucky guesses.

3. It might be mentioned that the *real* source of finance of public investment through new money creation need not be forced saving produced by inflation. If the money supply expands in step with the growth of real GNP (implying, *cet. par.*, a constant price level), the *real* source is the real income forgone by those who, in the absence of any increase in money supply, would have reaped the benefits of a rising GNP through falling prices.

4. No attempt has been made to reconcile the Commonwealth Bank's data on the increase in *total* Australian holdings of Commonwealth Government securities with the capital account in Table VI.

made in the years 1948/49 to 1950/51. Since 1951/52, total purchases by non-banking investors (including life assurance and trustee offices, etc.) have amounted to only £22 million or less than 1 per cent of total public investment over the six years. (This, of course, overstates the decline in the contribution of the public, since savings bank and part of trading bank purchases represent voluntary domestic saving.)

Tail Piece

In conclusion, a plea for better statistics.

To the Commonwealth Statistician:

(a) for inclusion in the White Paper of a public authorities capital account, if possible separately for Commonwealth and States; or at least a breakdown of Table XI by Commonwealth and States;

(b) for early publication of a classification of receipts and outlay of government bodies, relating the public authority tables of the White Paper to their sources in the Commonwealth and State public accounts.

To the Commonwealth Treasury:

(a) for a fuller "Summary of Financial Results" at the beginning of the appendix to the *Budget Speech,* somewhat on the lines of our Table V;

(b) as a longer-term project, an economic code classification of all items in the Commonwealth budget papers;

(c) publication of Loan Council Papers and Minutes, if necessary with a time lag of (say) five years.

To the Commonwealth Bank:

(a) for data on central bank open market operations and other transactions in government securities, if necessary with a time lag of (say) three years.

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TABLE I

Commonwealth (incl. Semi-Govts.)—Capital Account

£ million

		1948/9	49/50	50/1	51/2	52/3	53/4	54/5	55/6	56/7
	FUNDS AVAILABLE									
	A. *Revenue*									
C1	Current surplus	115	102	202	282	168	213	214	223	301
C2	Depreciation allowances	2	2	2	3	2	3	2	3	4
	Total	117	104	204	285	170	216	216	226	305
	B. *Borrowing*									
C3	Treasury bills (public)	—	—	—	45	72	—	—	5	—
C4	"Domestic raisings" (Commonwealth Bank)	—	—	—	—	15	—	—	—	—
C5	Public loan raisings—Aust.	71	62	2	38	31	48	28	47	34
C6	I.B.R.D. loans (net)	—	—	4	25	17	22	24	18	3
C7	Other overseas borrowing	—	—	—	—	—	6	6	6	3
C8	Decrease in Govt. bond holdings	—	—	11	—	12	6	—	9	38
	Total	71	62	17	108	147	82	58	85	78
	C. *Other*									
C9	Net sale of existing real assets	—	—	—	—	—	1	1	—	—
C10	Increase in stabilisation funds	40	14	63	—	—	—	—	—	—
C11	Decrease of stocks	—	—	—	—	—	7	1	—	—
C12	Use of cash	—	—	—	22	6	23	3	4	—
C13	Other funds available	1	—	4	2	—	5	1	6	—
	Total	41	14	67	24	6	36	6	10	—
	Total Funds Available ..	229	180	288	417	323	334	280	321	383
	DISPOSAL									
	A. *Debt Redemption & Repurchase*									
C3	Treasury bills (public)	85	15	—	—	—	35	30	—	15
C14	Savings certificates	2	7	7	6	8	5	4	3	3
C15	C'wealth bonds—Aust.	33	39	61	32	22	17	36	46	76
C16	C'wealth bonds—overseas ..	—	5	2	1	1	10	5	—	—
C8	Increase in Govt. bond holdings (excl. special loan)	23	—	—	2	—	—	—	—	—
	Total	143	66	70	41	31	67	75	49	94
	B. *Public Investment*									
C17	C'wealth public works	29	42	55	74	69	66	68	78	82
C11	Increase in stocks	2	8	8	6	1	—	—	3	—
C9	Purchase of existing real assets (net)	1	2	2	1	3	—	—	1	1
	Total	32	52	65	81	73	66	68	82	83
	C. *Loans & Grants*									
C18	Special loan	—	—	—	160	123	80	48	93	99
C19	Advances to States (net) ..	16	20	24	26	30	42	31	38	39
C20	Grants to States for capital purposes	7	9	15	17	17	23	23	31	36
C21	Advances to public (net) ..	8	16	23	24	23	20	22	27	25
	Total	31	45	62	227	193	165	124	189	199
	D. *Other*									
C10	Decrease in stabilisation funds	—	—	—	66	22	35	12	—	—
C22	Capital transfers	6	3	62	2	1	1	1	1	3
C12	Increase in cash balances ..	17	12	29	—	—	—	—	—	1
C13	Other uses of funds	—	2	—	—	3	—	—	—	3
	Total	23	17	91	68	26	36	13	1	7
	Total Disposal ..	229	180	288	417	323	334	280	321	383

TABLE II

States (incl. Semi-Govts.)—Capital Account

£ million

		1948/9	49/50	50/1	51/2	52/3	53/4	54/5	55/6	56/7
	FUNDS AVAILABLE									
	A. *Revenue*									
S1	Current surplus	29	33	45	49	75	86	88	74	90
S2	Depreciation allowances	3	4	4	5	8	12	14	18	18
C20	C'wealth grants for capital purposes	7	9	15	17	17	23	23	31	36
	Total	39	46	64	71	100	121	125	123	144
	B. *Borrowing*									
S3	Treasury bills (public)	—	—	2	—	—	—	—	—	—
S4	Domestic raisings	3	3	9	7	7	8	8	6	1
S5	Public loan raisings—Aust.	79	78	147	203	158	155	143	149	158
S24	Commonwealth Bank	—	7	12	—	—	—	—	—	—
S7	Overseas borrowing	6	—	—	—	—	—	3	10	6
S8	Decrease in bond holdings	1	1	1	4	1	—	—	—	—
C19	Advances from C'wealth (net)	16	20	24	26	30	42	31	38	39
S23	Local & semi-govt. securities (net)	21	37	66	60	71	65	63	55	66
	Total	126	146	261	300	267	270	248	258	270
	C. *Other*									
S25	Sale of dwellings	—	—	1	1	1	1	1	6	16
S11	Decrease of stocks	—	—	—	—	—	12	—	—	—
S12	Use of cash	4	—	—	18	—	—	17	32	—
S13	Other funds available	1	5	8	—	6	7	7	1	10
	Total	5	5	9	19	7	20	25	39	26
	Total Funds Available	170	197	334	390	374	411	398	420	440
	DISPOSAL									
	A. *Debt Redemptions & Repurchases*									
S3	Treasury bills (public)	—	—	—	2	—	—	—	—	—
S15	C'wealth bonds—Aust.	30	15	25	19	15	14	15	19	20
S16	C'wealth bonds—overseas	15	9	18	1	—	6	4	9	6
S8	Increase in Govt. bond holdings	—	—	—	—	—	18	11	5	1
	Total	45	24	43	22	15	38	30	33	27
	B. *Public Investment*									
S17	Public works	113	156	233	319	316	331	348	361	373
S9	Purchases of existing real assets (net)	5	4	15	5	2	6	5	4	2
S11	Increase in stocks	6	12	11	35	4	—	—	7	4
	Total	124	172	259	359	322	337	353	372	379
	C. *Loans and Grants*									
S21	Advances to public (net)	1	1	3	8	6	6	14	14	26
	D. *Other*									
S22	Capital transfers	—	—	—	—	1	1	1	1	1
S12	Increase in cash balances	—	—	29	—	30	29	—	—	7
S13	Other uses of funds	—	—	—	1	—	—	—	—	—
	Total	—	—	29	1	31	30	1	1	8
	Total Disposal	170	197	334	390	374	411	398	420	440

TABLE III

Commonwealth Capital Account—Sources

£ million

		1948/9	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	Notes	Sources
C1	*Current Surplus*											
a	total receipts	377	451	621	715	798	767	812	899	935		WP. Table VIII
b	*less* net increase in indebtedness ..	73	42	64	186	82	133	125	113	184		do.
C2	*less* depreciation allowances	−2	−2	−2	−3	−2	−3	−2	−3	−4		do.
	current receipts	448	491	683	898	878	897	935	1009	1115		
c	total outlay	377	451	621	715	798	767	812	899	935		do.
C17a	*less* public works	−26	−39	−50	−68	−64	−61	−62	−70	−74		do.
C17b	*add* public works in C'wth Territories..	3	3	5	6	5	5	6	8	8	(b)	BP. 1955/6, p. 49 (CRF)
C11	*less* increase in stocks	−2	−8	−8	−6	−1	−7	1	−3	—		WP. Table VIII
C22	*less* capital transfers	−6	−3	−62	−2	−1	−1	−1	−1	−3		do.
C20	*less* grants to States for capital purposes	−7	−9	−15	−17	−17	−23	−23	−31	−36		BP. 1955/6, p. 14 (CRF)
	current outlay	333	389	481	616	710	684	721	786	814		
	Current surplus	115	102	202	282	168	213	214	223	301		
d	*of which* Transfers from C.R.F... ..	(c)	(c)	(c)	99	13	56	70	62	112	(c)	BP. 1955/6, p. 134 (Misc.) BS. 1957/8, p. 2
C2	*Depreciation allowances*	2	2	2	3	2	3	2	3	4		WP. Table VIII
C3	*Treasury bills (public)*	−85	−15	—	45	72	−35	−30	5	−15		BP. 1955/6, p. 89 (LF)
C4	*Commonwealth domestic raisings*	—	—	—	—	15	—	—	—	—		BP. 1955/6, p. 121 (Chr. L)
C5	*Public loan raisings—Australia*											
a	C'wth stocks & bonds—works, etc. ..	17	21	28	28	30	37	29	43	39		BP. 1955/6, p. 89 (LF)
b	do. war & repat. ..	43	29	—	9	14	5	3				do.
c	advance subscriptions	11	11	−26	..	3	6	−5	3	−5		do.
C4	*less* C'wth domestic raisings	—	—	—	—	−15	—	—	—	—		BP. 1955/6, p. 121 (Chr. L)
		71	62	2	38	31	48	28	46	34	(a)	

TABLE III—*continued*

		1948/9	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	Notes	Sources
C6	*International Bank loans*											
a	borrowing	—	—	4	25	17	21	24	19	5		BP. 1955/6, p. 89 (LF)
b	*less* repayments	—	—	—	—	—	—	—	−1	−3		NDC. Report 1956, p. 10
		—	—	4	25	17	21	24	18	3	(a)	
C7	*Other overseas borrowing*											
a	Switzerland	—	—	—	—	—	6	6	—	—		BP. 1955/6, p. 89 (LF)
b	Canada	—	—	—	—	—	—	—	7	—		do.
c	New York..	—	—	—	—	—	—	—	1	..		do.
d	Qantas—New York	—	—	—	—	—	—	—	—	4		do.
		—	—	—	—	—	6	6	6	3	(a)	
C8	*Increase in Government bond holdings*											
a	increase in C'wth Trust Fund investments	44	37	89	124	80	77	86	83	84		BP. 1955/6, p. 6 (Tr. B.)
b	*less* internal treasury bills	−41	−19	−87	37	76	−29	−35	8	−20		BP. 1955/6, p. 7 (Tr. B.)
C18	*less* special loan	—	—	—	−160	−123	−80	−48	−93	−99		BP. 1955/6, pp. 120f (Chr. L)
c	*less* increase in superannuation fund holdings	−2	−3	−4	−5	−5	−5	−6	−7	−6	(d)	BP. 1955/6, pp. 81f (TF)
d	*less* increase in silver & bronze ..	..	−1	..	..	..	..	..	..	3		do.
e	*less* increase in fixed deposits	..	..	..	—	−29	27	2	..	..		do.
f	*less* increase in Ins. deposits—titles & mortgages	..	..	..	—	..	..	..	—	..		do.
g	semi-government holdings (e.o.i.) ..	22	−15	−9	6	−10	4	1	—	−1	(e)	A. G. Suppl. 1955/6
		23	..	−11	2	−12	−6	..	−9	−38	(a)	
C9	*Purchases of existing real assets*											
a	Commonwealth (net)	1	2	3	3	5	..	..	2	2	(f)	Estimates 1955/6
b	semi-government (net)	—	—	−1	−2	−2	−1	−1	−1	−1	(g)	A. G. Suppl. 1955/6
		1	2	2	1	3	−1	−1	1	1		
C10	*Increase in stabilisation funds*	40	14	63	−66	−22	−35	−12	..	..		WP. Table XI
C11	*Increase in stocks*	2	8	8	6	1	−7	−1	3	..		WP. Table VIII

TABLE III—*continued*

1958

		1948/9	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	Notes	Sources

C10	*Increase in stabilisation funds*	40	14	63	−66	−22	−35	−12	..	..		WP. Table XI
C11	*Increase in stocks*	2	6	8	6	1	−7	−1	3	..		WP. Table VIII

TABLE III—*continued*

		1948/9	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	Notes	Sources
C12	*Increase in cash balances* ..											
a	increase in C'wth cash balances ..	7	−6	−4	5	−6	4	−1	2	2		BP. 1955/6, p. 6 (Tr. B.)
C8e	increase in fixed deposits	..	..	..	..	29	−27	−2	..	..		BP. 1955/6, pp. 81f (TF)
b	increase in semi-govt. cash balances (incl. fixed deposits): Aust. Wool Realization Commission	11	16	33	−29	−30	..	..	—	—		A. G. Suppl. 1955/6, §23
c	other	−1	2	..	2	1	..	..	−6	−1	(h)	A. G. Suppl. 1955/6
		17	12	29	−22	−6	−23	−3	−4	1		
C13	*Other funds available* (e.o.i.)	1	−2	4	2	−3	5	1	6	−3	(i)	Residual
C14	*Savings certificates*											
a	savings certificates issued	6	..	..	..	..	..	..	..	..		BP. 1955/6, p. 89 (LF)
b	redemptions from Loan Fund	−8	−7	−7	−6	..	..	—	—	—		BP. 1955/6, p. 88 (LF)
c	redemptions from Sinking Fund ..	..	..	..	..	−2	..	..	..	..		NDC. Report 1956, p. 10
d	redemptions from C.R.F.	—	..	..	..	−6	−5	−4	−3	−3		BP. 1955/6, p. 43 (CRF)
		−2	−7	−7	−6	−8	−5	−4	−3	−3		
C15	*Redemptions—C'wealth bonds—Australia*											
a	from Loan Fund	−29	−12	−9	−6	−7	..	..	..	..		BP. 1955/6, p. 90 (LFE)
b	from Sinking Fund	−4	−27	−29	−25	−16	−17	−36	−18	−33		NDC. Report 1956, p. 10
C14c	*less* redemption of savings certs. ..	..	..	..	..	2	..	..	..	..		do.
d	from cash proceeds of loans	—	—	−24	—	—	—	—	—	—		BS. 1951/2, p. 3
e	from Loan Consolidation & Investment Reserve	—	—	—	—	—	—	—	−28	−43		BS. 1957/8, p. 6
		−33	−39	−61	−32	−22	−17	−36	−46	−76	(a)	
f	*of which* redemptions from cash proceeds not included in C5	—	—	—	−6	−7	—	—	—	—		BS. 1952/3, p. 3; 1953/4, p. 13
C16	*Redemptions—C'wealth bonds—overseas*											
a	from Loan Fund	—	−5	—	—	—	—	—	—	—		BP. 1951/2, p. 117 (LF)
b	from Sinking Fund	..	−1	−2	−1	−1	−10	−5	−2	−3		NDC. Report 1956, p. 10
C6b	*less* I.B.R.D. repayments	—	—	—	—	—	—	—	1	3		do.
		..	−5	−2	−1	−1	−10	−5	..	..	(a)	

TABLE III—*continued*

		1948/9	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	Notes	Sources
C17	*Commonwealth public works*											
a	public works	26	39	50	68	64	61	62	70	74		WP. Table VIII
b	public works in C'wth Territories ..	3	3	5	6	5	5	6	8	8	(b)	BP. 1955/6, p. 49 (CRF)
		29	42	55	74	69	66	68	78	82		
C18	*Special loan*	—	—	—	160	123	80	48	93	99		BP. 1955/6, pp. 120f (Chr. L.)
C19	*Advances to States* (net)											
a	under Housing Agreement	14	17	22	27	30	37	29	33	32		BP. 1955/6, p. 90 (LFE)
b	defence housing	..	..	..	..	..	..	..	..	1		BP. 1957/8, pp. 31f (CRF)
c	War Service Land Settlement	3	4	4	5	6	4	4	8	8		48/9–50/1: BP. 1951/2, p. 47 (CRF) 50/1–56/7: BP. 1955/6, p. 90 (LFE)
d	*less* repayments to Sinking Fund ..	−1	−1	−4	−2	−2	−2	−2	−2	−3		NDC. Report 1956, p. 9
e	*less* deposits with Sinking Fund ..	−1	−1	3	−3	−3	4	—	—	1		NDC. Report 1956, pp. 11, 20
f	*less* repayments of Agric. Re-Est. Loans	..	..	..	..	−1	−1	−1	—	—		BP. 1955/6, p. 21 (CRF)
		16	20	24	26	30	42	31	38	39	(a)	
C20	*Grants to States for capital purposes*											
a	C'wealth aid—roads	7	9	14	15	16	22	22	27	32		BP. 1955/6, p. 14 (CRF)
b	other	—	..	1	2	1	1	1	4	4	(j)	do.
		7	9	15	17	17	23	23	31	36	(k)	
C21	*Advances to public* (net)											
a	War Service Homes—capital exp. ..	9	16	25	28	28	27	30	30	30		BP. 1955/6, p. 80 (TF)
b	*less* repayments	−1	−2	−3	−4	−4	−5	−6	−6	−6		do.
c	emergency wheat storage	—	—	—	—	—	—	—	3	—		BP. 1955/6, p. 90 (LFE)
d	advances by semi-govt. bodies (net) ..	..	2	1	−1	−1	−2	−2	..	1	(l)	A. G. Suppl. 1955/6
		8	16	23	24	23	20	22	27	25	(a)	
C22	*Capital transfers*	6	3	62	2	1	1	1	1	3		WP. Table VIII

Notes to Table III

Symbols used:

of both sides of every account, if necessary by selecting one item for rounding in the wrong direction.

C22 *Capital transfers*	6	3	62	2	1	1	1	1	3		WP. Table VIII

Notes to Table III

Symbols used:

.. less than £500,000.
— none.

Abbreviations used:

WP.—White Paper on *National Income and Expenditure 1956/57*.
BP. 1955/6—Commonwealth *Budget 1955/56* and corresponding entries in Budget papers for other years. The letters in brackets indicate the following sections of the *Budget*:
LF—Loan Fund.
LFE—Loan Fund Expenditure.
CRF—Commonwealth Revenue Fund.
TF—Trust Fund.
Chr.L.—Loan Fund: Chronological List of Loans raised by Commonwealth.
Tr.B.—Treasury Balances.
Misc.—Miscellaneous Statistics.
BS.—Commonwealth *Budget Speeches*; all page references are to the attached statements.
Estimates 1955/6—Commonwealth *Estimates of Receipts and Expenditure 1955/56* and corresponding entries in other years.
NDC.—National Debt Commission, *Annual Reports*.
A.G. Report 1955/6—Commonwealth Auditor-General's *Annual Report* for year ended 30th June, 1956, and corresponding accounts in reports for other years.
A.G. Suppl. 1955/6—Commonwealth Auditor-General's *Supplementary Report* for year ended 30th June, 1956, and corresponding accounts for other years.
Treasury—Information supplied to the author by the Secretary to the Commonwealth Treasury.

(a) Columns may not add to totals owing to rounding. In order to retain the exact White Paper figures where they enter as such into the capital account, it has been necessary to follow the White Paper practice of "forced rounding", i.e. of ensuring exact balance of both sides of every account, if necessary by selecting one item for rounding in the wrong direction.

(b) The White Paper, sensibly for most purposes, includes the Commonwealth's internal territories, the Northern Territory and the A.C.T., with the States (see White Paper 1956/57, p. 22, note a). For the purposes of this paper, it has seemed better to reverse this procedure and include public works expenditure in these territories with Commonwealth public works. In addition to the territories' capital works vote, the total for each year includes two small amounts for Canberra streets (B.P. 1955/6, p. 49, CRF) and Northern Territory roads (A.G. Report 1955/6, p. 90, Commonwealth Aid—Roads).

(c) For constitutional and political reasons, the Commonwealth public accounts never show a significant budget surplus (cf. Parliamentary Public Accounts Committee, 34th Report, *The Trust Fund*, Government Printer, Canberra, 1957). The appearance of budget surpluses is avoided by appropriation of actual surpluses to various trust accounts. The exact amount of these surpluses cannot be determined because there is no precise criterion for distinguishing appropriations to active trust accounts (such as the National Welfare Fund) to meet genuine contingencies from appropriations which serve the purpose of concealing budget surpluses. The amounts shown under C1d, which represent surplus revenue invested in the special loans, fairly clearly fall into the second category but do not necessarily constitute the whole of the concealed budget surpluses of these years. They were appropriated as follows: in 1951/52 to the National Debt Sinking Fund, in 1952/53 to the Pension Fund, in 1953/54 and 1954/55 to the Debt Redemption Reserve, and in 1955/56 and 1956/57 to the Loan Consolidation and Investment Reserve. The amounts which can reasonably be identified as concealed surpluses (or deficits) in the earlier years are: in 1948/49, £30·1 million appropriated to the War Gratuity Reserve (BP. 1949/50, p. 106); in 1949/50, —£25·5 million appropriated from Loan Fund for current war and repatriation expenditure (BP. 1950/1, p. 118); in 1950/51, £57 million appropriated to the Strategic Stores and Equipment Reserve (BP.

1951/2, p. 102); and in 1951/52, £10 million to the same fund (BP. 1952/3, p. 100); (in the last two years, some expenditure was incurred out of this fund which might be treated as an offset). It might be added that the significance of these surpluses has changed in recent years with the acceptance by the Commonwealth of a *de facto* commitment to help finance the States' public works programme from its tax revenue. While the Commonwealth's assistance still takes the form of special *loans* to the States (on which interest is payable) and is therefore reasonably excluded from Commonwealth expenditure in assessing the Commonwealth's budget surplus, the required amount must nowadays be budgeted for as surely as the amount needed to finance the Commonwealth's own public works.

(d) Includes the holdings of the Superannuation Fund, the Defence Forces Retirement Benefits Fund and the Parliamentary Retiring Allowances Fund.

(e) 1948/49-1952/53, chiefly Australian Wool Realization Commission; 1952/53-1956/57, chiefly Australian Wool Board, Joint Coal Board, Qantas Empire Airways and Stevedoring Industry Authority.

(f) Comprises numerous small items, designated "acquisition of land and buildings", in the Capital Works and Services votes of the Commonwealth Estimates.

(g) Chiefly Joint Coal Board, Whaling Commission and Flax Production Commission.

(h) Chiefly T.A.A., Australian Stevedoring Industry Board, Joint Coal Board and Qantas Empire Airways.

(i) C1b *less* C3-10, 12 *plus* C14-16, 18, 19, 21.

(j) Commonwealth grants for W.A. water works, imported houses, mental institutions and tuberculosis hospitals capital expenditure.

(k) These grants, though financed from C.R.F., are best regarded as part of the capital accounts of the Commonwealth and States. Of course, they disappear in the consolidated account for the public authority sector.

(l) Chiefly Joint Coal Board and Whaling Commission.

£ million

		1948/9	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	Notes	Sources
S1	*Current surplus*											

£ million

		1948/9	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	Notes	Sources
S1	*Current surplus*											
a	Total receipts	253	322	426	582	576	598	661	722	765		WP. Table IX
b	*less* net increase in indebtedness	−80	−122	−180	−283	−221	−199	−224	−246	−234		do.
S2	*less* depreciation allowances	−3	−4	−4	−5	−8	−12	−14	−18	−18		do.
C17b	*less* public works in C'wth territories	−3	−3	−5	−6	−5	−5	−6	−8	−8	(d)	BP. 1955/6, p. 49 (CRF)
C20	*less* C'wth grants for capital purposes	−7	−9	−15	−17	−17	−23	−23	−31	−36		BP. 1955/6, p. 14 (CRF)
	Current receipts	160	184	222	271	325	359	394	419	469		
c	Total outlay	253	322	426	582	576	598	661	722	765		WP. Table IX
S17a	*less* public works	−116	−159	−238	−325	−321	−336	−354	−369	−381		do.
S11	*less* increase in stocks	−6	−12	−11	−35	−4	12	..	−7	−4		do.
S22	*less* capital transfers	..	..	..	..	−1	−1	−1	−1	−1		do.
	Current outlay	131	151	177	222	250	273	306	345	379		
	Current surplus	29	33	45	49	75	86	88	74	90		
S2	*Depreciation allowances*	3	4	4	5	8	12	14	18	18		do.
S3	*Treasury bills (public)*	—	—	2	−2	—	—	—	—	—		BP. 1955/6, p. 89 (LF)
S4	*State domestic raisings*	3	3	9	7	7	8	8	6	1	(b)	48/9–50/1: Treasury 51/2–56/7: BS. 1956/7, p. 5
S5	*Public loan raisings—Australia*	79	78	147	203	158	155	143	149	158	(c)	BP. 1955/6, p. 89 (LF)
S7	*Overseas borrowing*											
a	Loan Fund	6	—	—	—	—	—	—	10	6		BP. 1955./6, p. 89 (LF)
b	South Australia	—	—	—	—	—	—	3	—	—		A. G Report South Australia 1955/6.
		6	—	—	—	—	—	3	10	6		
S8	*Increase in bond holdings*	−1	−1	−1	−4	−1	18	11	5	1		Residual (WP. Table XI less C8)
S9	*Purchases of existing real assets* (net)	5	4	15	5	2	6	5	4	2		do. (less C9)
S11	*Increase in stocks*	6	12	11	35	4	−12	..	7	4		WP. Table IX
S12	*Increase in cash balances*	−4	..	29	−18	30	29	−17	−32	7		Residual (WP. Table XI less C12)

TABLE IV—*continued*

		1948/9	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	Notes	Sources
S13	*Other funds available*											
a	other funds available (e.o.i.) ..	1	4	10	−1	6	7	7	1	10		Residual (WP. Table XI less C13)
b	discrepancy	—	1	−2	—	—	—	—	—	—	(c)	
		1	5	8	−1	6	7	7	1	10		
S15	*Redemptions–C'wealth bonds–Australia*											48/9: Treasury; 49/50–56/7: BP. 1955/6, p. 88 (LF) NDC. Report 1956, p. 20
a	from Loan Fund	−22	−8	−16	−10	−4	..	—	—	—	(c)	
b	from Sinking Fund	−8	−7	−9	−9	−11	−14	−15	−19	−20		
		−30	−15	−25	−19	−15	−14	−15	−19	−20		
c	*of which* redemptions from cash proceeds deducted from S5 ..	—	—	—	−10	−4	—	—	—	—		BS. 1952/3, p. 3; 1953/4, p. 13
S16	*Redemptions–C'wealth bonds–overseas*											
a	from Loan Fund	−12	−7	−12	—	..	—	—	−8	−5	(c)	BP. 1955/6, p. 88
b	from Sinking Fund	−3	−2	−6	−1	−1	−6	−4	−1	−2		NDC. Report 1956, p. 20
		−15	−9	−18	−1	..	−6	−4	−9	−6	(a)	
S17	*Public works*											
a	State public works	116	159	238	325	321	336	354	369	381		WP. Table IX
C17b	*less* public works in C'wth Territories	−3	−3	−5	−6	−5	−5	−6	−8	−8	(d)	BP. 1955/6, p. 49 (CRF)
		113	156	233	319	316	331	348	361	373		
S21	*Advances to public* (net) ..	1	1	3	8	6	6	14	14	26		Residual (WP. Table XI less C21)
S22	*Capital transfers*	..	..	..	..	1	1	1	1	1		WP. Table IX
S23	*Local & semi-govt. securities* ..	21	37	66	60	71	65	63	55	66		WP. Table XI
S24	*Borrowing from C'wealth Bank*	—	7	12	—	—	—	—	—	—	(c)	BS. 1950/1, p. 33; 1951/2, p. 3
S25	*Sale of dwellings*	..	..	1	1	1	1	1	2	10		WP. Table XI

S25 *Sale of dwellings* ... ... 1 1 1 1 1 9 10 1951/2, p. 3 WP, Table XI

Notes to Table IV

For symbols and abbreviations used, see notes to Table III.

(a) Columns may not add to totals owing to rounding.

(b) The figures for State domestic raisings for 1948/49-1950/51 have not been published in any Commonwealth budget papers; they can be brought together from the public accounts of the States.

(c) The discovery of the correct figures for State public loan raisings in Australia and for domestic and overseas redemptions in 1948/49, 1949/50 and 1950/51 required considerable detective work. The main cause of the trouble were two transactions involving redemption of a Victorian London loan in 1949/50 and a New South Wales London loan in 1950/51. Both transactions were financed partly by the National Debt Sinking Fund but mainly by the Commonwealth Bank which redeemed the securities from its own London funds and was given equivalent amounts in Commonwealth bonds in Australia. Both transactions are described (in sterling) in the Commonwealth Budget Speeches for 1950/51 and 1951/52, but the Commonwealth Bank's contributions were missed in the compilation of the White Paper because they were not published in the State loan fund accounts which are used as a source of information by the Statistician and which recorded the transactions on a net basis. In the 1952/53 Commonwealth *Budget*, the Commonwealth Bank's contribution of 1950/51 is correctly shown as a Loan Fund redemption, but the corresponding figure for the 1949/50 transaction, as far as can be ascertained, is too large by some £10 million, as is also the figure for State loan raisings for that year. Even allowing for the Commonwealth Bank transactions, the White Paper figures for net loan raisings in Australia and overseas for these three years reveal an unexplained discrepancy which has been included as Item S13b with "other funds available".

(d) See note (b) to Table III.

TABLE V

Loan Council Programme

£,000

	1951/52	1952/53	1953/54	1954/55	1955/56	1956/57	Key (Tables III and IV)	Sources
I. *Loan Council Programme*								
Loan Moneys obtained from Australian sources:								BS. 1956/7, p. 5
Public Loans	63,824	52,009	118,172	122,388	93,433	97,672	C5a+6+S5−C18−C4 −C15e−S15e	do. do.
State Domestic Raisings	7,011	6,643	7,475	8,139	5,375	1,150	S4	do.
Total	70,835	58,652	125,647	130,527	98,808	98,822		do.
Finance Arranged by C'wealth:								
Loans Raised Overseas	27,000	18,500	23,750	33,300	27,066	(a)1,293		do.
Other Special C'wealth Assistance	125,865	113,030	50,603	16,173	64,126	91,885		do.
Total	152,865	131,530	74,353	49,473	91,192	93,178		do.
Grand Total (State Works & Housing Programme)	223,700	190,182	200,000	180,000	190,000	192,000		do.
II. *Other Special Commonwealth Assistance*								
Advance subscriptions	372	2,880	5,613	−4,681	(b)3,112	(b)−4,800	C5c	BP. 1955/6, p. 89 (LF)
Transfers from C'wealth Revenue Fund ..	98,500	13,400	56,271	70,151	61,613	111,612	C1d	BP. 1956/7, p. 134 (Misc); BS. 1957/8, p. 2
C'wealth domestic raisings	—	15,000	—	—	—	(c)2,699	C4	BP. 1955/6, p. 121 (Chr. L)
Net increase in Treasury bills (public)	42,600	71,720	−35,000	−30,000	5,000	−15,000	3	BP. 1955/6, p. 89 (LF)
Increase in C'wealth Trust Fund balances (n.e.i.)	667	10,262	32,383	−15,871	(b)6,990	(b)7,416		residual
less								
Redemptions from Loan Fund (excl. redemptions from cash loan proceeds).. ..	−5,950	−331	−189	−71	−21	−12	C15a+S15a+C14b −C15f−S15c	
Increase in C'wealth cash balances	−5,204	5,784	−4,281	542	−1,764	−1,992	C12a	BP. 1955/6, p. 6 (Tr. B)
Other C'wealth commitments:								
War Service Land Settlement Advances to States	−5,120	−5,685	−4,199	−4,039	−7,622	−8,018	C19b	BP. 1955/6, p. 90 (LFE)
Emergency Wheat Storage	—	—	—	—	−3,182	—	C21c	do.
Other Special Commonwealth Assistance	125,865	113,030	50,603	16,173	64,126	91,885		Table V, I

TABLE V—*continued*

	1951/52	1952/53	1953/54	1954/55	1955/56	1956/57	Key (Tables III and IV)	Sources
III. *Total Loan Council Programme*								
Loan Moneys obtained from Australian sources:								
Public Loans	63,824	52,009	118,172	122,388	93,433	97,672		I
State Domestic Raisings	7,011	6,643	7,475	8,139	5,375	1,150		I
Total	70,835	58,652	125,647	130,527	98,808	98,822		I
Finance Arranged by C'wealth:								
Loans Raised Overseas	27,000	18,500	23,750	33,300	27,066	(a)1,293		I
Other Special C'wealth Assistance	125,865	113,030	50,603	16,173	64,126	91,885		I
Total	152,865	131,530	74,353	49,473	91,192	93,178		I
Grand Total (State Works & Housing Programme)	223,700	190,182	200,000	180,000	190,000	192,000		I
less								
Redemptions from Loan Fund (excl. redemptions from cash loan proceeds).. ..	−5,950	−331	−189	−71	−21	−12		II
Increase in C'wealth cash balances	−5,204	5,784	−4,281	542	−1,764	−1,992		II
Other C'wealth commitments:								
War Service Land Settlement Advances to States	−5,120	−5,685	−4,199	−4,039	−7,622	−8,018		II
Emergency Wheat Storage	—	—	—	—	−3,182	—		II
Total Loan Council Programme	217,330	189,851	195,729	175,961	178,609	183,160		Table V, II

TABLE V—*continued*

	1951/52	1952/53	1953/54	1954/55	1955/56	1956/57	Key (Tables III and IV)	Sources
III. *Reconciliation with Commonwealth Capital Account*								
Funds Available								
Loan Council Programme	224	190	200	180	190	192		Table V, I
Other C'wealth commitments	5	6	4	4	11	8		do.
Balance of current surplus	183	155	157	144	161	189	C1—C1h	
Depreciation allowances	3	2	3	2	3	4	C2	
Balance of Treasury bills (public)	2	—	—	—	—	—	3—C3	
Increase in stabilisation funds	−66	−22	−35	−12	—	—	C10	
Other funds available	2	−3	5	1	6	−3	C13	
Balance of overseas borrowing	−3	−3	−6	−4	5	2		(d)
Less State loan raisings (excl. special loan)	−31	−27	−69	−88	−43	−40	S4+S5—S15—C18	
Total Funds Available	319	298	259	227	333	352		
Disposal								
C'wealth public works	74	69	66	68	78	82	C17	
Balance of debt redemption	35	34	36	55	68	99	C15—C15a+S15—S15a+C14—C14b	
Increase in stocks	6	1	−7	−1	3	—	C11	
C'wealth grants for capital purposes	17	17	23	23	31	36	C20	
Capital transfers	2	1	1	1	1	3	C22	
Net purchases of existing real assets	1	3	−1	−1	1	1	C9	
Advances to public (net)	24	23	20	22	27	25	C21	
Increase in Govt. bond holdings	2	−12	−6	—	−9	−38	C8	
Balance of increase in cash balances	−27	—	−27	−2	−6	−1	C12b	
Special loan	160	123	80	48	93	99	C18	
Advances to States	26	30	42	31	38	39	C19	
Rounding error	−2	−1	—	−1	+1	—		
Increase in trust fund balances (n.e.i.)	1	10	32	−16	7	7		Table V, II residual
Total Disposal	319	298	259	227	333	352		

Notes

(a) This amount represents loan raisings on behalf of the States in New York and was not technically part of finance arranged by the Commonwealth.

(b) BS. 1956/7, p. 5, gives advance subscriptions as £2,019,000 for 1955/56; BS. 1957/8, p. 2, as £3,917,000 for 1956/57. In both cases, the figure is net of loan instalments outstanding which has been deducted from the residual increase in trust fund balances n.e.i. The amount for instalments outstanding is nowhere published; it is included in the item "balance of Loan Fund including outstanding instalments", BP. 1955/6, p. 92.

(c) I.B.R.D. counterpart funds.

(d) I.B.R.D. counterpart funds invested in public loans *less* reduction in I.B.R.D. trust fund balances for investment in special loan.

TABLE VI

Public Authorities—Finance of Public Investment

£ million

		1948/9	49/50	50/1	51/2	52/3	53/4	54/5	55/6	56/7
	SOURCES OF FINANCE									
	A. *Revenue*									
1	Current surplus	144	135	247	331	243	299	302	297	391
2	Depreciation allowances	5	6	6	8	10	15	16	21	22
	Total	149	141	253	339	253	314	318	318	413
	B. *Borrowing*									
	I. *From Australian Public*									
S4	State domestic raisings	3	3	9	7	7	8	8	6	1
5	Loan raisings—Aust.	150	140	149	241	189	203	171	196	192
S23	Local & semi-govt. securities	21	37	66	60	71	65	63	55	66
	Less Redemptions & Repurchases									
15	C'wealth bonds—Aust.	−63	−54	−86	−51	−37	−31	−51	−65	−96
14	Savings certificates	−2	−7	−7	−6	−8	−5	−4	−3	−4
8, C18	Increase in bonds held by public authorities	−22	1	12	−158	−110	−92	−59	−89	−61
	Net loan raisings	87	120	143	93	112	148	128	100	98
C10	Increase in stabilisation funds	40	14	63	−66	−22	−35	−12	—	—
	Less									
21	Advances to public (net)	−9	−17	−26	−32	−29	−26	−36	−41	−51
	Total	118	117	180	−5	61	87	80	59	47
	II. *From Overseas*									
6	International Bank (net)	—	—	4	25	17	22	24	18	3
7, 16	Other overseas loans (net)	−9	−14	−20	−2	−1	−10	—	7	3
	Total	−9	−14	−16	23	16	12	24	25	6
	III. *From Central Bank*									
3	Treasury bills (public)	−85	−15	2	43	72	−35	−30	5	−15
C4	C'wealth domestic raisings	—	—	—	—	15	—	—	—	—
S24	State borrowing from C'wealth Bank	—	7	12	—	—	—	—	—	—
	Total	−85	−8	14	43	87	−35	−30	5	−15
	C. *Other Funds*									
13	Other funds available	2	3	12	1	3	12	8	7	7
12	Use of cash	−13	−12	−58	40	−24	−6	20	36	−8
S25	Sale of dwellings	—	—	1	1	1	1	1	6	16
22	*less* Capital transfers	−6	−3	−62	−2	−2	−2	−2	−2	−4
	Total	−17	−12	−107	40	−22	5	27	47	11
	All Sources of Finance	156	224	324	440	395	383	419	454	462
	USE OF FINANCE									
17	Public works	142	198	288	393	385	397	416	439	455
9	Net purchases of existing real assets	6	6	17	6	5	5	4	5	3
11	Increase in stocks	8	20	19	41	5	−19	−1	10	4
		156	224	324	440	395	383	419	454	462

TABLE VII

Sources of Finance of Public Investment

(Percentages of total)

	1948/9	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	Averages 1948/49–50/51	Averages 1951/52–56/57	Averages 1948/49–56/57
	%	%	%	%	%	%	%	%	%	%	%	%
A. Revenue	95·5	63·0	78·1	77·0	64·1	82·0	75·9	70·0	89·4	78·9	76·4	77·2
B. Borrowing												
I. From Australian public	75·6	52·2	55·6	−1·1	15·4	22·7	19·1	13·0	10·2	61·1	13·2	29·2
II. From overseas	−5·8	−6·2	−4·9	5·2	4·1	3·1	5·7	5·5	1·3	−5·6	4·2	0·9
III. From central bank	−54·5	−3·6	4·3	9·8	22·0	−9·1	−7·2	1·1	−3·2	−17·9	2·2	−4·5
C. Other funds	−10·9	−5·4	−33·0	9·1	−5·6	1·3	6·4	10·4	2·4	−16·4	4·0	−2·8
Total funds available	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

TABLE VIII —*Indirect Central Bank Finance*

£ million

	1948/9	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	Date	Source
I. BALANCE SHEET METHOD											
1. Increase in C'wealth Bank holdings of govt. securities (incl. treasury bills)	−104·5	158·5	15·1	141·6	13·0	−44·2	31·3	31·2	−55·5	30/6	C'wealth Bank, *Annual Reports*
2. *Less* increase in treasury bills (public) outstanding	85·0	15·0	−2·4	−42·6	−71·7	35·0	30·0	−5·0	15·0	30/6	Table VI, 3
3. *Add* increase in trading bank treasury bill holdings	−8·0	15·7	46·2	−14·8	79·4	−58·6	−39·4	−3·3	−10·3	av. June	*Finance Bulletin*
4. Increase in C'wealth Bank holdings of govt. securities	−27·5	189·2	58·9	74·2	21·7	−67·8	21·9	22·9	−50·8		Residual
5. *Less* direct C'wealth Bank purchases of C'wealth bonds	—	−7·0	−11·8	—	−15·0	—	—	—	—	30/6	Table VI, C4+S24
6. Indirect central bank finance ..	−27·5	182·2	47·1	74·2	6·7	−67·8	21·9	22·9	−50·8		Residual
II. DISTRIBUTION OF BOND HOLDINGS METHOD											
1. C'wealth Bank & C'wealth Savings Bank increase in holdings of C'wealth bonds	−7·7	3·7	65·9	105·6	10·6	−30·6	45·6	36·2	−25·1	30/6	C'wth Bank, *Statistical Bulletin* (incl. General Banking Div. thro' 52/3).
2. *Less* increase in holdings of General Banking Division	−22·0	4·6	13·6	−5·9	6·9					av. June	*Finance Bulletin*
3. *Less* increase in C.S.B. holdings (incl. treasury bills)	−6·2	−17·7	−44·4	7·8	−6·7	−14·5	−19·5	1·7	2·0	30/6	*Finance Bulletin*
4. Increase in C'wealth Bank holdings of C'wealth bonds	−35·9	−9·4	35·1	107·5	10·8	−29·9	26·1	37·9	−23·1		Residual
5. *Less* direct C'wealth Bank purchases	—	−7·0	−11·8	—	−15·0	—	—	—	—		Table VI, C4+S24
6. Indirect central bank finance ..	−35·9	−16·4	23·3	107·5	−4·2	−29·9	26·1	37·9	−23·1		
III.											
1. Indirect central bank finance (incl. open market purchases) (estimated)	−32	(83)	35	91	1	−49	24	30	−37		Average of 16 and 116 above
2. Net bond purchases by all other investors	119	(37)	108	2	111	197	104	70	135		Residual
3. Net loan raisings	87	120	143	93	112	148	128	100	98		Table VI

3. Net loan raisings	87	120	143	93	112	148	128	100	98	Table VI

TABLE IX

Bank and Non-Bank Finance in Bond Market

£ million

	1948/9	49/50	50/51	51/52	52/53	53/54	54/55	55/56	56/57	Totals 1948/49–50/51	Totals 1951/52–56/57	Totals 1948/49–56/57
Increase in Australian holdings of Commonwealth Government Securities												
C'wth Bank & C'wth Savings Bank(a) ..	−7·7	3·7	65·9	105·6	10·6	−30·6	45·6	36·2	−25·1	103·5	314·1	417·6
All other banks	7·6	32·4	1·6	−27·9	46·5	51·6	−0·5	15·6	86·5			
Governmental bodies	7·2	2·0	−5·3	162·8	132·2	94·5	62·5	83·7	71·2			
All others	86·9	68·0	21·4	−46·0	−17·6	63·4	20·5	7·9	−6·2	176·3	22·0	198·3
Total	94·0	106·1	83·6	194·5	171·7	178·9	128·1	143·4	126·4			

(a) Includes General Banking Division through 1952/53.

Source: Commonwealth Bank, *Statistical Bulletin*, October 1951, September 1953, October 1957.

NOTES

WOOL IN THE NEW ZEALAND ECONOMY—A COMMENT

In forecasting long-term trends where many of the variables must remain unknown, it is a sound principle to use broad approximations rather than methods which pretend to greater exactitude than the data permit. Dr. Philpott, however, in computing the possible demand for wool in 1975,[1] seems to have carried this principle farther than he need have done.

Assuming unaltered price relationships, he derives the increase in the demand for wool from two components: the increased number of wool consumers, represented by the projected rate of *world* population growth; and the increased ability of each consumer to buy wool textiles, represented by the rate of growth of *world* income per head adjusted by the income elasticity of demand for wool.[2]

The use of the projected rate of world population growth as an indicator of the increase in demand attributable solely to population changes is open to two objections.

In the first place, the world rate is influenced by countries in which no significant quantity of wool is consumed at all. If the rate of population growth in the wool-consuming countries differs significantly from that in the rest of the world, the use of the world rate may be seriously misleading. The table below suggests that the anticipated rate of population growth in the conventionally designated "wool-consuming countries" is 1·05 per cent. If, to widen the population coverage, one includes countries where the consumption of wool per head is much lower (China, India, Peru, etc.) the anticipated rate of growth for the whole of the contemporary "wool-consuming world" is 1·3 per cent.[3]

In the second place, consumption of wool per head varies widely from country to country. For this reason it is not safe to base a projection of the growth of demand for wool on the *average* rate of population growth, even that of the "wool-consuming countries". This difficulty can be overcome by projecting each country's consumption in some base period by that country's anticipated population growth. The table below suggests that accounting only for the population growth factor—that is, assuming constant real income per head, tastes and price relationships—consumption of wool in the present, broadly defined, "wool-consuming world" will by 1975 have risen to

1. B. P. Philpott, "Wool in the New Zealand Economy", *Economic Record*, XXXIII, 65 (August, 1957), pp. 216-231.

2. *Ibid.*, p. 222.

3. The principle of separating out those parts of the world directly relevant to the wool market is accepted by Dr. Philpott at an early stage of the argument (p. 219, *note* 5), but is subsequently ignored.

Projected demand for wool in 1975, assuming constant tastes and relative prices

Region	Wool Consumption per Head, 1948–52	Projected rate of population Increase (a)	Annual Average Wool Consumption, 1948–52 (b)	Wool Consumption, 1975
WESTERN EUROPE: Austria, Belgium, Denmark, Finland, France, Greenland, Italy, Ireland, Holland, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, West Germany, Yugoslavia	lb. 3·99	% 0·6	mn. lb. clean 1159	1359
"NORTH AMERICA": Australasia, Canada, Union of South Africa, United States of America	3·52	1·1	677	896
TEMPERATE SOUTH AMERICA: Argentine, Chile, Paraguay, Uraguay	3·70	1·5	99	140
JAPAN	1·08	1·5	90 (c)	127
"SOVIETS": Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Roumania, U.S.S.R. (including Asiatic)	0·94	1·2	283	381
CONVENTIONAL "WOOL-CONSUMING COUNTRIES"	2·58	1·05	2308	2903
			rate of increase in consumption = 0·95%	
CENTRAL-SOUTH AND SOUTH-WEST ASIA: India, Iraq, Israel, Jordan, Lebanon, Pakistan, Persia, Saudi Arabia, Syria, Turkey ..	0·17	1·5	86	125
CHINA	0·06	1·0	33	42
TROPICAL SOUTH AND CENTRAL AMERICA: Bolivia, Brazil, Columbia, Ecuador, Mexico, Peru, Venezuela	0·44	2·4	48	86
NORTH AFRICA: Algeria, Egypt, French West Africa, Libya, Morocco, Tunisia	0·58	1·7	25	38
TOTAL "WOOL-CONSUMING WORLD"	—	1·3	2500	3194
			rate of increase in consumption = 1·0%	

Notes: (a) *Source*: United Nations Population Division, *Framework for future population estimates, 1950-1980, by world regions* (E/CONF.13/126), 1954, Table II, "middle assumption".

(b) *Source*: Commonwealth Economic Committee, *World Consumption of Wool 1950-1953*, Appendix IV.

(c) As Japanese consumption has only just returned to what might be called a "normal" level, the figure in the table has been substituted for the actual average of 73mn. lb.

3,194 mn. lb., an annual increase of 1·0 per cent,[4] 0·5 per cent less than Dr. Philpott's assumed rate of 1·5 per cent.[5]

The other component in the derivation of the increase in the demand for wool is the increase in real income per head adjusted by the income elasticity of demand. Accepting Dr. Philpott's assumption of a 2 per cent increase in real income and an income elasticity of demand of 0·85, the suggested modification of the population factor would mean that the rate of growth in the demand for wool would be only 2·7 per cent instead of his 3·2 per cent. This would mean that the gap between the rates of growth of the demand for and supply of wool (excluding wool-type synthetics) would be narrowed from 1·2 per cent to 0·7 per cent.[6] This alone must dampen the optimism of the forecast.

Moreover, as Dr. Philpott would agree, an accurate estimate of the income component would be extremely difficult. For the conventionally designated "wool-consuming countries" it may be fairly reasonable to base an estimate on the assumption of a stable rate of growth of real income per head. But to assume that we can infer the likely growth of real income per head, or the income elasticity of demand for wool, in India, China, Indonesia or the Arab states from the experiences of Western Europe or North America is unsafe, to say the least. So long as a margin of 1·2 per cent separated the rates of growth of demand and supply it could be assumed fairly confidently that errors in estimation would not invalidate the general tenor of the conclusions. The reduction of that margin to 0·7 per cent means that they are much more vulnerable to criticism of the income component in the exercise.

A. BARNARD

Australian National University.

4. It must be emphasized that this estimate of 1·0 per cent is based on imperfect materials. The wool consumption figures used in the table to weight the population figures do not refer to the consumption of manufactured textiles by final users but to the consumption of raw and semi-processed wool in manufacturing mills; adjustment to allow for the effects of international trade in manufactured wool textiles would therefore provide a better measure of consumption per head in individual countries and improve the estimate. The population projections were made some years ago and might be revised. While such revisions might be striking in the case of individual countries, they would have a less marked effect on groups of countries. It was, partly, for this reason that the countries have been grouped within the table. Some of the grouping, however, is awkward and it reintroduces, though in a reasonably innocuous form, the problem of differing levels of consumption per head. The inclusion of India, China and similar countries in the "wool-consuming world" is open to criticism, though in fact it acts to increase the rate of growth of demand.

5. Philpott, *op. cit.*, p. 222.

6. The rate of growth of supply (p. 223) is estimated at 2·0 per cent, of demand (p. 222) 3·2 per cent.

REPLY

When writing this article I was not unmindful of the points raised by Mr. Barnard. His criticism is quite justified, but it is somewhat reduced in force if account is taken of two factors which should perhaps have been mentioned in my article.

(i) The first point (and Mr. Barnard mentions this himself) is that the population figures for each country should be weighted, not by the mill consumption of wool, but by the final consumption of wool textiles in each country. Because most of the countries with high rates of population increase are also net importers of wool textiles, weighting in this way has the effect of raising the prospective average rate of increase in world wool consumption to about 1·2 per cent per annum compared with my 1·5 per cent and Mr. Barnard's 1·0 per cent.

(ii) Of much greater significance, however, is the strong possibility that those countries which are experiencing rapid population growth are also the countries which, because they are poor, have income elasticities for wool textiles much higher than the figure of 0·85, which was used in my article, and which is applicable to the important westernized wool consuming countries. Admittedly there is little available data with which to substantiate this suggestion but it is certainly not refuted by the very substantial increases, in recent years, in per capita wool consumption for such developing countries as Japan, U.S.S.R., China, Malaya, Turkey, Syria, Iraq and Algeria.

Assuming an income elasticity of 1·5 for Mr. Barnard's second group of countries, and of 0·85 for the first group, then a calculation using separate income elasticities for the two groups (and taking account of the first consideration mentioned above) results in a prospective compound rate of increase in world demand of about 3 per cent—much the same as the figure I originally suggested.

My aim in writing the article was not so much to make forecasts of wool prices—whether optimistic or pessimistic—but simply to explore the dimensions of the problem and above all to suggest that all the available evidence supports a vigorous policy of expansion in wool production. I do not think this conclusion is in any way impaired by Mr. Barnard's very useful criticism.

In any case, a policy of rapid expansion in wool production is now more than ever necessary to make up for the effects of the Australian drought on the level of Australian wool production.

B. P. PHILPOTT

New Zealand Meat & Wool Boards' Economic Service,
Wellington, New Zealand.

NEWS AND NOTES

The *Australian Journal of Statistics* is to be published three times a year by the Council of the Statistical Society of New South Wales. Papers should be submitted to either Dr. H. S. Konijn or Dr. H. O. Lancaster, at the University of Sydney, Sydney, New South Wales.

The Thirty-fourth Congress of the Australian & New Zealand Association for the Advancement of Science is to be held in Perth from 24th to 28th August, 1959. The President of Section G will be Professor P. H. Karmel. Offers of papers should be sent by 31st March, 1959, to Mr. D. W. Oxnam (Faculty of Economics, University of Western Australia), the honorary local secretary of Section G. The papers themselves, which should be as short as possible and in any case should not exceed 5,000 words, should be submitted not later than 1st June, 1959.

At the Thirty-third Congress of the Australian & New Zealand Association for the Advancement of Science, held in Adelaide from 20th to 27th August, 1958, the following papers were presented to Section G (Economics, Statistics and Social Science):

"The Varied Role of Central Banks" (Presidential Address by *A. R. Low*); "The Changing Role of Trading Banks" (*D. H. Merry*); "Some Aspects of Personal Saving" (*Dr. H. Bell*); "Recent Trends in Australian Employment" (*H. P. Brown*); "Trends in Women's Work Participation" (*C. E. V. Leser*); "Basic Economic Policy for Australia" (*Professor Sir Douglas Copland*); "Can We Offset Our External Difficulties? A Neglected Australian Problem" (*G. R. Mountain*); "Income Estimates for an Australian State" (*Dr. A. M. Kerr*); "The Teaching of Elementary Mathematics to University Students of Economics" (*Professor R. S. G. Rutherford*); "The Changing Structure and Direction of Australian Trade" (*G. Warwick Smith*); "Balance of Payments Trends" (*R. F. Jones*); "Tariff and Import Licensing Policies" (*Dr. M. Corden*); "Some Recent Suggestions for Improving the Sterling Area" (*Dr. J. O. N. Perkins*); "Some Remarks on Regression Analysis with Uncontrolled Regressors" (*Dr. H. S. Konijn*); "Federal Finance in British Commonwealth Countries" (*Professor W. Prest*); "The Role of Income and Investment in the Aggregate Supply of Farm Products in New Zealand" (*B. P. Philpott and J. D. Stewart*); "Linear Programming as an Aid to Economic Analysis" (*W. Candler*); "Aerial Pasture Improvements in N.S.W." (*F. Gruen*); "The A.N.Z. Bank's Index of Australian Industrial Production" (*M. E. Joseph*); "Productivity of Labour: Certain Measures Used in Modern Industry and their Economic Significance" (*Dr. K. A.*

Blakey); "Growth and the Capital Stock" (*Dr. W. E. G. Salter*); "Generation Life-Tables in Australia" (*Dr. H. O. Lancaster*); "The Agricultural Provisions of the European Economic Community Treaty" (*P. D. Abbott*); and "Forecasting the Market for Consumer Durables in Australia" (*Dr. H. Hughes*).

During the Conference, Professor Sir Douglas Copland delivered the first Giblin Memorial Lecture, "L. F. Giblin and the Frontier of Research on the Australian Economy". The Australian Society of Accountants Lecture, "The Province of Accounting", was given by Professor L. Goldberg.

Social functions included a sherry party given by the South Australian Branch of the Economic Society of Australia and New Zealand; a tour of the new town of Elizabeth as guests of the South Australian Housing Trust (conducted by Mr. A. M. Ramsay, General Manager of the Trust); and a visit to the McLaren Vale winery of Thomas Hardy and Sons, who later were hosts to the Section at a picnic luncheon in the cellars. Section members were described collectively by Dr. Perkins as "a gaggle of gees".

The President of the Section for the Adelaide Meeting was Mr. A. R. Low, Economic Adviser to the Reserve Bank of New Zealand; and the Secretary was Professor R. L. Mathews, Professor of Commerce in the University of Adelaide.

The Central Council of the Economic Society of Australia and New Zealand held its meeting in Adelaide during the A.N.Z.A.A.S. Congress. The Council elected Professor S. J. Butlin as President in succession to Professor H. W. Arndt. Mr. G. S. Colman was elected to the Editorial Board to succeed the late Sir Lennon Raws. The Council also elected Professor Sir Douglas Copland, Professor F. R. E. Mauldon, Professor T. Hytten and Professor A. H. Tocker as Honorary Life Members of the Society. It was reported that the International Economic Association had accepted the Economic Society into its membership.

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REVIEWS

Fifty Years of Farm Management. By H. C. M. CASE AND D. B. WILLIAMS. (University of Illinois Press, Urbana, 1957.) Pp. 386. 61/9 Aust.

In 1948, D. B. Williams, now Officer-in-Charge of the Agricultural Research Liaison Section of the C.S.I.R.O. in Melbourne, went to the University of Illinois as a Thomas Lawrance Pawlett Scholar from the University of Sydney. There, under Professor Case's guidance, he prepared a dissertation on the evolution of farm management methods in the United States, which subsequently received one of the awards of the American Farm Economics Association. This book, the preliminary manuscript for which was prepared prior to Williams' return to Australia in 1951 and has been "revised and completed as opportunity has arisen since then", develops and expands the ideas presented in the original thesis.

In Australia at the present time, there is growing recognition of the importance of farm management economics in the fields of both research and extension. State and Commonwealth instrumentalities have come to appreciate the importance of including farm management advice in their extension services, and farmers are asking more and more for this type of advice.

The application of economic methods to agriculture is a relatively new field in Australia and we can learn much from the experience of other countries, particularly the United States.

In the introduction to this book, the authors set themselves to "describe the advances made in the research, teaching and extension aspects of farm management in the United States and endeavour to interpret and evaluate developments that have occurred". In both these tasks they have succeeded admirably.

The book is divided chronologically into five divisions, each covering a decade, and begins its study at the turn of the century with the classical cost analyses at Minnesota, the survey method of collecting data developed at Cornell and the "model farm" approach of Spillman. The decade 1910-20, when farm management emerged as a study in its own right completely separate from agronomy and an equal partner with the macro-economic study of agriculture, is treated at some length. The development of farm account books, the gradual evaluation of farm budgeting and the swing to a "whole farm" approach to management problems are all examined and analysed.

One feature of the development of farm management in the United States which could well be emulated in this country has been the close association of research and extension work under the Federal-State Co-operative Extension Service. The authors describe the development of this Service and discuss the impact it has had on the formulation of farm management ideas. They also discuss in detail the part played by

Government agencies, Universities and other institutions in farm management research and in the practical application of research results.

For any student or practitioner of farm management this book is essential reading, and is an excellent companion volume to Taylor's *The Story of Agricultural Economics*. The authors' treatment of the various facets of farm management makes it easy for Australian readers to draw parallels with experience in this country. One particular passage in the concluding chapter has a special significance here at the present time.

> "Now, we look toward a renewed and increased attention to research. By closer co-operation with agricultural technologists, experiments can be planned to include information on economic aspects of the problems surveyed. In collaboration with psychologists and sociologists, we may explore the problems presented in personal characteristics and experiences of farmers and how these affect their decision-making and managerial abilities. Such clarifying knowledge and understanding of motivating forces can be valuable in estimating the probable outcomes of proposed new policies, and in evolving extension work of greater effectiveness for the farmer."

M. J. PHILLIPS

Sydney.

Principles of Economic Policy. By KENNETH E. BOULDING. (Prentice-Hall, New York, 1958.) Pp. vi + 440. $7.95.

In style, in the choice of the apt word, in the range of interest displayed, this book lives up to what we have come to expect of Professor Boulding. One innovation here, however, is the author's own eight-line verses which head each chapter. While one may suspect some of the rhymes (or is this merely because we don't speak with an American accent?) these verses each provide an apt and illuminating text for a university lecture.

After discussing the nature of economic policy (in which welfare is the ultimate end) Boulding in successive chapters discusses the immediate objectives of economic policy—progress; stabilization; justice; freedom—, following with a chapter discussing the conflicts that may arise between these objectives. He then examines these objectives in terms of general policies, the successive chapter headings being: the principles of action applied to government; fiscal policy; monetary and financial policy; income maintenance policy; commercial policy and international economics; government and business enterprise. Three more specialized chapters follow in which Boulding discusses agricultural policy, labour policy, and the economics of war and peace. He concludes with two forward looking chapters: the world perspective (communism and development); and to Utopia and beyond.

The most interesting and stimulating chapters are those which deal with the four objectives of policy and the conflicts that may arise between them.

But as a whole the book is disappointing and occasionally trivial for so eminent an economist as Professor Boulding. Perhaps this is because Boulding is never quite certain for what audience he is writing the book. He does, indeed, in his preface write that "both the general reader and the student will find this an introduction to the principles of economics rather than its techniques". Yet both the general reader and the beginner in economics will often find the argument in the central chapters difficult to follow for Boulding leaves many statements unexplained. On the other hand the teacher or the graduate student will find little that is new.

Probably the book is best adapted to the good student in his third or so year who has progressed some distance in the study of economics for it will give him an overall view of economics as well as an appreciation of some of the conflicts that arise in policy making. This reviewer will also be glad to have the book on his shelves for it does provide an easy reference to the points he should develop in any lectures on policy.

JAMES P. BELSHAW

The University of New England.

Economic Development: Theory, History, Policy. By G. M. MEIER AND R. E. BALDWIN. (John Wiley & Sons, New York, 1957.) Pp. xix + 558. $8.50.

In 1957, Economic Development graduated as a branch of economic theory for teaching purposes, the diploma consisting in the publication of the first spate of textbooks. Of the ten or so textbooks on the subject published last year, the book under review is the most comprehensive and, for those teachers who like the American type of "textbook for the course", undoubtedly the best.

Professors Meier and Baldwin manage in something over 500 pages to cover the whole range of the new subject, and their lay-out is conventional and logical. Part 1 surveys Theories of Economic Development; Part 3 covers the problems of under-developed countries under the sensible heading Accelerating Development in Poor Countries; Part 4 deals with the tasks of Maintaining Development in Rich Countries. The only unexpected feature is Part 2 which "to allow perspective and furnish a proving ground for the preceding theoretical discussion . . . examines the historical role of Britain as the 'centre' of the nineteenth century world economy". The idea on the whole comes off because the authors use this part to give far more than a mere historical account of British nineteenth-century economic development, indeed to smuggle in much basic theory of international trade and payments and growth as a background to the policy problems of Parts 3 and 4.

Part 1 follows the by now almost orthodox pattern of potted history of growth theories, the Classics, Marx, Schumpeter, Domar-Harrod and stagnation, varied only to include a useful chapter on Marshall and the lesser Neo-Classics. As usual, Wicksell gets much

less than his due, but generally this part is extremely well done. Students will benefit from the fact that the accounts of the various theories are much more faithful to the original texts than some recent more stylized versions.

In Parts 3 and 4 the attempt to cover so vast a field inevitably involves skimping here and generalizing rather sweepingly there. But the authors have been remarkably successful in linking theoretical analysis with discussion of practical problems and have gone out of their way to guide students, in footnotes, to samples of the vast literature of periodical articles and official reports. Oddly, there is no bibliography of the central themes of the book, but three good select bibliographies on socio-cultural aspects of development, specific development plans in various under-developed countries, and historical (country) case studies of economic development.

H. W. ARNDT

Canberra University College.

The Elements of Accounting. By L. GOLDBERG AND V. R. HILL. (Second edition, Melbourne University Press, Carlton, Victoria, 1958.) Pp. 300. 25/- net Aust.

In the second edition this elementary accounting text has been revised and, in places, re-written. It is interesting and thoughtful, departs from the conventional approach, and, as the authors say, was considered "somewhat revolutionary" when first published in 1947.

Various accounting concepts are discussed in the first part of the book, and the study of accounting method is commenced (in Chapter 7) from an analysis of the balance sheet (a final accounting report). The twofold effect of transactions is examined and the analysis is carried back through the mechanism of the ledger to the journal—the book of first entry. The later parts of the text are nearer the usual approach, and proceed in more detail through the journals, ledger and trial balance to the final reports.

Whilst the reviewer would not agree completely with all the techniques presented, the many reprints through which the first edition has passed indicate, as the authors claim, the sympathy of an increasing number of teachers with the "logical" form of presentation.

As an introductory text, the book is recommended to students of Universities, Technical Colleges, and professional accountancy organizations, and to those wishing to make acquaintance for the first time with the subject of accountancy.

W. L. BURKE

N.S.W. University of Technology.

The Economics of International Migration. Edited by BRINLEY THOMAS. (Macmillan, London, 1958.) Pp. xiii + 502. 64/9 Aust.

This book—a collection of papers delivered at a conference held by the International Economic Association in September 1955 and a record of the discussion on them—is disappointing. Its weaknesses

appear to be a more or less inevitable outcome of its origin and make it seem doubtful whether the publication of the proceedings of conferences such as this are justified. On the one hand the theoretical papers while providing useful surveys of the relevant literature attempt to be too comprehensive and merely raise a large number of issues without following them through properly. On the other hand the descriptive papers, while bringing together in one place a good deal of useful information about the facts of international migrations are too short to give a satisfactory description of the events with which they are concerned. One is left with the impression that one individual attempting to cover the field indicated by the title on the same scale as is indicated by the number of pages in this book would have produced a much more satisfying volume.

The particular objection to this work is that the title is somewhat misleading. It is both too wide and too narrow. Too wide in that it is primarily concerned with the nature and character of post World War II international migrations, the historical surveys included in a number of the articles merely providing a background to the problems of the post-war period. Too narrow in that it is concerned with much more than the economics of such migrations. For the period with which it is concerned this is, no doubt, quite proper. No account of this period could make sense without an appropriate weighting for political and "socio-psychological" factors. One cannot help feeling, however, that a return to the older title "political economy" would have better prepared the reader for the nature of the contents of this book than the title which has been adopted.

The technical apparatus of the book—foot-notes, index, etc.—is what one would expect from its publishers, but, if one can grant that it was in fact worth publishing, the delay in doing so seems to have been inordinately long.

A. R. HALL

Australian National University.

Public Principles of Public Debt. By JAMES M. BUCHANAN. (Richard D. Irwin, Inc., Homewood, Illinois, 1958.) Pp. xi + 223. $5.00.

This book attempts to prove that—

"1. The primary real burden of a public debt is shifted to future generations.
2. The analogy between public debt and private debt is fundamentally correct.
3. The external debt and the internal debt are fundamentally equivalent."

These "allegedly vulgar and unsophisticated" ideas, which are found in "classical public debt theory", are the reverse of those now accepted by most economists.

Professor Buchanan's rejection of what he calls "the new orthodoxy" springs partly from his individualistic philosophy. He refuses

to have any truck with the organic view of the state; there can be no debt burden until individuals have to pay taxes to service the debt.

More important are his methodological criticisms, which perform a valuable function of amending and clarifying current public debt theory. This theory is accused of two main methodological errors. First, it often makes improper use of the *ceteris paribus* assumption, comparing a situation with debt and a situation without debt on the assumption that national income, tax revenue, government expenditure, and the stock of money are the same in both cases, when in fact these variables could not all be the same. Secondly, it often attributes to debt issue the effects of the combined debt-expenditure operation; if this is done "the availability of other, and possibly preferred, alternatives to either half will tend to be overlooked".

Space does not permit any account of the wide range of theoretical cases covered and the interesting discussion of public debt policy. Perhaps the book has an unnecessarily polemical flavour, but the analytical argument is of a high standard throughout.

W. R. LANE

University of Queensland.

The Development of the Soviet Budgetary System. By R. W. DAVIES. (Cambridge University Press, 1958.) Pp. xxi + 373. 45/- stg.

This is a scholarly and well documented study which will undoubtedly become a standard authority on the working of the Soviet budgetary system. The book is not only concerned with budget procedures, but analyses the part played by the budget in the execution of the government's overall economic policy. As such it is likely to be of particular interest to economists and others who are currently concerned with problems of financing capital investment in an underdeveloped economy. In an interesting schematic section the author suggests that there are two possible systems which the government could have used in financing its investment: (1) fixing transfer prices of goods sufficiently above their costs to enable the investment of each industry to be financed from its own accumulated profits; (2) equating transfer prices with costs, imposing a turnover tax, and using the proceeds of the tax to finance investment through the budget. Both systems were used in varying degrees in pre-war Russia, but much greater reliance was placed on the second than on the first.

The author distinguishes three periods in the development of the Soviet Budgetary System: (i) the civil war of 1918-20 with its breakdown of the monetary system and the attempt to establish a "budget in kind"; (ii) the mixed economy of the New Economic Policy (1921-29) when there was a return to a budgetary system more in line with the pre-revolutionary pattern; (iii) the period of the fully planned economy (1930-41) with its emphasis on a new budgetary system designed to facilitate rapid industrialization.

In the final chapter he examines, in the light of war-time and post-war experience, the effectiveness of the budgetary system that had emerged by 1941.

RUSSELL MATHEWS
University of Adelaide.

Problems of the New Commonwealth. By SIR IVOR JENNINGS, K.B.E., Q.C. (Duke University Press, Durham, N.C., Cambridge University Press, London, 1958.) Pp. xi + 114. $2.50.

This little book comprises three lectures delivered at the Duke University Commonwealth-Studies Center, and it deserves to be read by every Australian as well as every American student of Asian affairs. The first lecture is devoted to Political Considerations, the second to Economic Considerations and the third to Nationalism and Racialism.

Himself an authority on constitutional law and political science, Sir Ivor is an exceptionally well-qualified observer. He lived and worked in Ceylon for many years, and he has actually participated in framing the constitutions of several of the newly independent countries. His comments are always shrewd, often amusing and occasionally biting. He cuts through the emotional smog which surrounds such words as "nationalism", "colonialism" and "neutralism" and penetrates to the underlying realities.

Among the topics which he illumines are: the motivation of the English-speaking politicians to whom power has been transferred; the cleavage between them and the illiterate masses which look to them for leadership; and the unbelievably low general standard of mechanical knowledge and skill. Economists will be particularly interested in the bearing of the latter on the general problems of economic development, central planning and overseas trade which Sir Ivor discusses in his second lecture.

W. PREST
University of Melbourne.

The Agricultural Register (New Series). Changes in the Economic Pattern 1956-7. (Prepared by the Agricultural Economics Research Institute, University of Oxford, 1957.) Pp. 228. 21/- stg.

This volume represents a very welcome revival of a series prepared by the A.E.R.I. in the 1930's. It records "action taken concerning policy, guaranteed prices, finance, subsidies, marketing, etc., by Government Departments, Marketing Boards, banks, trade associations and other organizations".

To the Australian economist, this is important in two ways. The volume provides a very readable, but nevertheless apparently comprehensive statement of the marketing arrangements in the United Kingdom for primary products which is very relevant in any discussion of the future of much of our export markets. Secondly, this clear exposition of the U.K. marketing and farm support systems will be of value

in any reconsideration of Australian systems, e.g. in relation to the Dairy Industry.

R. S. G. RUTHERFORD

University of Sydney.

Economic Models—An Exposition. By E. F. BEACH. (John Wiley & Sons, New York, 1957.) Pp. 227. $7.50.

This book attempts to present "the mathematical and statistical aspects that play an essential part in economic theory". Though one would never guess it from the title, it is then another attempt to produce a "Mathematics and Statistics for Economists". The author states that he is aware of the fact that his earlier chapters are very simple and that the level of mathematical sophistication rises rapidly. Readers are urged to try themselves out on the book, and if they find something difficult to skip a few pages and plunge into a later chapter.

In the event the book is a curious mixture. Some topics appear unduly laboured, even for Australian students, others involve an advanced level of sophistication in economic theory. Yet others give a nonchalant treatment of matters that are mathematically and statistically quite complicated: this must produce in the student a false belief that he really understands them that is positively dangerous.

R. S. G. RUTHERFORD

University of Sydney.

The National Economic Accounts of the United States—Review, Appraisal and Recommendations. A Report by the National Accounts Review Committee of the National Bureau of Economic Research. (United States Government Printing Office, Washington, 1958.) Pp. 202. 65 cents. (Not printed at Government expense.)

It is recorded in its 38th annual report that the National Bureau of Economic Research Inc. established a committee towards the end of 1956 to review and appraise the (U.S.) national economic accounts. This was done at the request of the Division of Statistical Standards of the Bureau of the Budget in the U.S. Just under a year afterwards, hearing on the report were held by the Sub-Committee on Economic Statistics of the Joint Economic Committee, 85th U.S. Congress; the record of the hearings was then published and this volume is a reprint of the National Bureau committee's report taken from that record.

It is worth noting that the National Bureau's committee was at some pains to give substance to its claims; that by interview and questionnaire it sought to discover the experience and needs of users of national economic accounts. It is worth noting, also, that the committee adopted a definite point of view itself about the desirability of extending and developing national economic accounts—that there could be no question of the usefulness of pushing measurement of this kind to the farthest lengths to which it could be carried.

To its credit, the committee's report was quite frank on this score, but some reference to the real as well as the monetary cost should have been useful—and appropriate from economists—although it was not

forthcoming. However, too much elaboration of any particular point was avoided on the grounds that the report was not a treatise on the subject of national accounting. This applies as much to the discussion of conceptual as to administrative problems.

A great deal is taken for granted. The report is more an outline of existing material with specific and categoric recommendations for its improvement and extension than a discussion of national accounting problems. For the latter—at least as far as they concern the usual income and product accounts—it is fortunate that reference can be made to volume 22 of the Bureau's Studies in Income and Wealth published in July 1958 under the title *A Critique of the United States Income and Product Accounts.*

Yet the usefulness and importance of the report should not be minimized. In its own words: "The committee has tried to provide in this report a road-map for national accounting during the next 5 to 10 years, rather than to conduct an item-by-item audit of the present estimates". This has mainly taken the form of suggestions for the integration of the five different forms of national economic accounting which—more than elsewhere—have tended to develop independently in the U.S.; the usual income and product accounts, input-output tables, money-flows studies, balance of payments statements and national balance sheets. One of the major benefits accruing from the first introduction of income and product accounts was the comprehensive and uniform view given of the economy; it would be a serious loss if the development of new forms of national accounting were allowed to confuse the overall picture once more.

In other respects, the committee's recommendations mostly called for improvement in or additions to the stock of primary statistics with which the national accountant must work.

Our needs in Australia seem to be much the same, in principle at least, as those in the U.S. We, too, need improved basic data, a finer sector division of the accounts, more frequent estimates and estimates in constant prices. But, and naturally enough, there should be some differences in emphasis. For instance, the need for a finer sector division is surely more urgent with us, for the U.S. farm sector is not subject to the same seasonal variations or random fluctuations in its fortunes as ours; nor does it have the same importance for the rest of the economy. A statistical separation of the farm sector should rank very high in any list of priorities for us. Integration of the accounts, on the other hand, is a far less pressing problem here, if only because so much less has of necessity been done as yet. But it would be a loss if the counsel offered were not taken from the start in any extension of Australian national accounting.

Such developments—whether in the U.S. or Australia—must, however, remain dreams until the holders of the purse strings can be shown that they are both necessary and urgently necessary; and it must be said that the committee's report is a lucid and persuasive attempt.

R. H. Scott
Sydney.

BOOKS RECEIVED*

A.—AUSTRALIAN AND NEW ZEALAND PUBLICATIONS

BARNARD, A. *The Australian Wool Market 1840-1900.* (Melbourne University Press on behalf of the Australian National University, 1958.) Pp. 238. 35/- Aust.

BEST, R. J. (ed.). *Introducing South Australia.* (Melbourne University Press, Carlton, Victoria, 1958.) Pp. 360. 37/6 Aust.

MELLOR, D. P. *The Role of Science and Industry.* (Australia in the War of 1939-1945, Series 4, Volume V.) (Canberra, Australian War Memorial; Angus & Robertson Ltd., Sydney, 1958.) Pp. 738. 30/- Aust.

WEBB, LEICESTER C. (ed.). *Legal Personality and Political Pluralism.* (Melbourne University Press on behalf of the Australian National University, 1958.) Pp. 200. 30/- Aust.

B.—OTHER PUBLICATIONS

AGRICULTURAL ECONOMICS RESEARCH INSTITUTE. *The Agricultural Register (New Series). Changes in the Economic Pattern 1956-7.* (University of Oxford, Agricultural Economics Research Institute, 1957.) Pp. 234. 21/- stg.

BOULDING, KENNETH E. *Principles of Economic Policy.* (Prentice-Hall, New York, 1958.) Pp. 440. $7.95.

BUCHANAN, J. M. *Public Principles of Public Debt.* (Richard D. Irwin, Inc., Homewood, Illinois, 1958.) Pp. 223. $5.00.

CARTER, C. F., MEREDITH, G. P., and SHACKLE, G. L. S. (eds.). *Uncertainty and Business Decisions.* 2nd ed. (Liverpool University Press, 1957.) Pp. 158. 22/6 stg.

This book is the second and enlarged edition of a report of part of the proceedings of the Economic Section of the British Association for the Advancement of Science 1953. Its theme is the logic, philosophy and psychology of business decision-making under uncertainty, with special reference to the concept of potential surprise developed by Professor G. L. S. Shackle. The ten contributors include economists, statisticians, philosophers and a psychologist and the whole provides a comprehensive survey of the subject as it now stands.

CHACKO, K. C. *The Monetary and Fiscal Policy of India.* (Vora & Co. Publishers Private Ltd., Bombay, 1957.) Pp. 386. Rs. 12.50.

In this book, based on his doctoral dissertation for New York University, the author outlines Indian monetary and fiscal experience since 1939 with the main emphasis on a long strongly policy-oriented discussion of both public and private monetary institutions including the Reserve Bank, the commercial banks, the co-operative banks, and the money market. There is also a brief discussion of the desirability of India's continued membership of the Sterling Area.

CHAMBERLIN, E. H. *The Economic Analysis of Labor Union Power.* (American Enterprise Association, Washington, D.C., 1958.) Pp. 48. $1.00.

This essay stresses the growth of monopoly power of trade unions in the United States. Some implications of this growth for economic welfare and received economic analysis are discussed. The conventional theory of collective bargaining is deemed "antiquated and wholly misleading". An inversion of the traditional analysis of the firm is suggested, with wages, not profits, as residuals to be determined.

COCHRAN, W. G., and COX, GERTRUDE M. *Experimental Designs.* 2nd ed. (John Wiley & Sons, New York, 1957.) Pp. 611. $10.25.

This is the second, fairly substantially revised, edition of an earlier text. The book describes in considerable detail how to carry out, and to analyse the results of, the wide range of experimental designs now available. Its use requires no special knowledge of mathematics. The work is a classic which would be on the bookshelves of almost all practising statisticians and could be recommended to anyone who is concerned with designing and analysing experiments.

* Acknowledgment of publications does not guarantee review.

CROWTHER, SIR GEOFFREY. *Balances and Imbalances of Payments.* (Graduate School of Business Administration, Harvard University, 1957.) Pp. 70. $2.00.

This little volume consists of lectures delivered at Harvard during 1957. Crowther presents an up-to-date version of his growth scheme whereby immature debtor-borrowers eventually become creditor-borrowers and argues that the Dollar Problem is likely to be permanent mainly because of inelastic demands for United States exports and imports.

DAVIES, R. W. *The Development of the Soviet Budgetary System.* (Cambridge University Press, 1958.) Pp. 373. 45/- stg.

DEANE, PHYLLIS (ed.). *Bibliography on Income and Wealth. Volume VI. 1953-54.* (Bowes & Bowes, London, 1958.) Pp. 139. 37/6 stg.

DENMAN, D. R. *Origins of Ownership. A brief history of land ownership and tenure in England from earliest times to the modern era.* (George Allen & Unwin, London, 1958.) Pp. 190. 22/6 stg.

This book is based on the works of A. Ballard, V. G. Childe, Sir John Clapham, E. A. Kosminsky, E. Lipson, Sir Frederic Maitland, Sir Frederick Pollock, M. Postan, F. Seebohm, Sir Frank Stenton, W. Stubbs, R. H. Tawney, Sir Paul Vinogradoff, and other prominent writers of English legal and economic history.

FOSSATI, ERALDO. *The Theory of General Static Equilibrium.* (Basil Blackwell, Oxford, 1958.) Pp. 247. 30/- stg.

This is a strictly theoretical exposition of the general equilibrium system. Not only content but also manner of presentation and concern with methodology are redolent of Pareto and Walras. Copious references to the various schools will be of value to students of the cross currents of economic thought.

FOUSEK, PETER G. *Foreign Central Banking: The Instruments of Monetary Policy.* (Federal Reserve Bank of New York, 1957.) Pp. 116. Available free for classrooms use and similar purposes.

A review of post-war trends in central banking techniques outside U.S.A. Degrees of recourse to the use of discount rates, open market operations, reserve requirements, liquidity ratios and direct and selective credit controls in the various countries are examined and a definite trend towards increasing reliance on more generalized and less direct quantitative credit controls is discerned. The final chapter surveys development patterns of short-term money markets.

GRONDONA, L. ST. CLARE. *Utilizing World Abundance.* (George Allen & Unwin, London, 1958.) Pp. 190. 21/- stg.

This book sets forth a comprehensive plan designed not so much to utilize world abundance as to regulate extreme fluctuations in international commodity prices. Essentially it envisages a vast British publicly-operated corporation empowered to buy under delimited conditions of over-supply and to re-sell when market prices rise above a nominated level. Provocative in its simplicity,

HAGUE, D. C. (ed.). *Stability and Progress in the World Economy.* (Macmillan, London, 1958.) Pp. 267. 25/- stg.

The five papers read (together with a summary of the subsequent discussion) at the first congress of the International Economic Association in Rome are printed in this volume. The topics treated were Stability and Progress: The Richer Countries' Problem (D. H. Robertson), The Poorer Countries' Problem (J. Viner); The Quest for Stability: The Real Factors (F. Perroux), The Monetary Factors (G. Haberler); International Stability and the National Economy (E. Lundberg).

INSTITUT FUR WELTWIRTSCHAFT AN DER UNIVERSITAT KIEL. *Gegenwartsprobleme der Agrarökonomie.* Festschrift für Fritz Baade. (Hoffman & Campe, Hamburg, Institut für Weltwirtschaft an der Universität Kiel, Kiel, 1958.) Pp. 482. DM 24.

This is an impressive collection of studies by friends of Fritz Baade, most of whom have been associated with him at the Kiel Institut für Weltwirtschaft. They are all concerned with the place of agriculture in contemporary and future economic development, and the emphasis is on empirically based studies of comparatively undeveloped regions. Essays by Max Biehl (Agrarian Revolution in China) and Otto Schiller (The Soviet Agrarian System—A Model for Development Regions?) are particularly interesting. More general studies of marketing

(Ursula Ewald) and land rent (Hans-Heinrich Herlemann) give further evidence of the vitality of this school of agricultural economics.

INTERNATIONAL JOURNAL OF AGRARIAN AFFAIRS. Vol. II, No. 4, January 1958. (Oxford University Press, London, 1958.) 9/6 Aust.

This issue is devoted to "Capital and Credit in Agriculture". F. H. Gruen of the N.S.W. Department of Agriculture writes about Australia. W. Germany is dealt with by G. Noell, Greece by C. Evelpidis, Italy by V. Ciarrocca and G. G. Dell'Angelo, Japan by T. Misawa and Y. Ito, Yugoslavia by V. Burzevski. A total of seven articles are compressed in 78 pages. The article of F. H. Gruen deals with capital formation, and this is also the main theme of the publication.

ISCHBOLDIN, BORIS. *Economic Synthesis.* (New Book Society of India, New Delhi, 1958.) Pp. 543. Rs. 30.

The author of this learned work describes it as "an attempt to rekindle the sort of analytical social economics which in recent years may seem to have lost some ground to the purely mathematical approach". It is a pity that the more original chapters—e.g. Ch. 19 on "Quasi Rent and Profit"—are not signposted more clearly.

JENNINGS, SIR IVOR. *Problems of the New Commonwealth.* (Duke University Press, Durham, North Carolina, Cambridge University Press, London, 1958.) Pp. 114. $2.50.

JEWKES, J., SAWERS, D., and STILLERMAN, R. *The Sources of Invention.* (Macmillan, London, 1958.) Pp. 428. 51/6 Aust.

JONES, RICHARD. *An Essay on the Distribution of Wealth, and on the Sources of Taxation.* (Reprints of Economic Classics, Kelley and Millman, New York, 1956.) Pp. 329 + Appendix pp. 49. $8.50.

Jones' *Essay* of 1831 is not, in the accepted sense of the term, an "economic classic", for there are probably not a great many economists who are familiar with it today. But it is a scarce book and its author has an important place in the history of economic thought. He was a distinguished forerunner of "the English historical school" of the later nineteenth century, and as such his work is well worthy of inclusion in this excellent series of reprints.

KINDLEBERGER, C. P. *Economic Development.* (Economic Handbook Series, McGraw-Hill, New York, 1958.) Pp. 325. 72/9 Aust.

This book is eclectic in approach combining various theories of the development process with a useful discussion of the policy problems involved in sustaining a development programme. The advantage of the book is that it blends the theoretical with the policy aspects during the course of discussion; the possibility of escape into remote abstraction is not likely. By maintaining the high standard of the Economic Handbook Series, the book recommends itself to those participating in courses on economic development.

MORSE, PHILIP M. *Queues, Inventories, and Maintenance.* Publications in Operations Research No. 1, Operations Research Society of America. (John Wiley & Sons, New York, 1958.) Pp. 202. $6.50.

Professor Morse is a physicist who has specialized in operations research and is director of the Computations Centre at M.I.T. In this book he demonstrates a "fairly simple technique", based on systems of difference equations, for handling queueing problems. The problems (traffic jams, production bottlenecks, inventory control, etc.) are management problems. This method of handling them may be of value to some specialists in applied economics, and the manner in which it establishes the nature of the problems and possible solutions should interest economists generally.

MOSER, C. A. *Survey Methods in Social Investigation.* (William Heinemann, London, 1958.) Pp. 352. 35/- stg.

This book discusses the methodological problems of every stage of a large-scale social survey—from defining the population to be investigated through to the interpretation and presentation of the final results. Sampling procedures are described in non-technical language and illustrated with examples drawn from surveys conducted in Great Britain. The systematic treatment of response errors is a noteworthy feature. A useful bibliography of the literature on social survey methods is given at the end of the text.

NATIONAL BUREAU OF ECONOMIC RESEARCH. *The National Economic Accounts of the United States.* (National Bureau of Economic Research, New York, 1958.) Pp. 202. 65 cents.

NEVIN, E. *Text Book of Economic Analysis.* (Macmillan, London, 1958.) Pp. 422. 29/9 Aust.

This textbook covers in seven sections the field of economic theory at an elementary level. It was written mainly for students preparing for the English General Certifiicate of Education, but may be found useful as introductory reading for first year courses in Australian Universities; in particular the first four sections, concerned with price theory, would be helpful to students who find texts such as Stigler, and Stonier and Hague, too difficult at first reading.

PERLMAN, MARK. *Labor Union Theories in America. Background and Development.* (Row, Peterson and Company, New York, 1958.) Pp. 313. $6.50.

The author distinguishes five basic theories of unionism, derived from these different approaches: the Christian Socialist and Roman Catholic, the Marxian Socialist, environmental psychology, neo-classical economics, and legal history. He outlines (1) the setting from which each theory developed, (2) the key ideas of each, (3) its relevance to modern conditions. An Appendix reviews four Congressional Investigations of trade unionism.

POUNDS, N. J. G., and PARKER, W. N. *Coal and Steel in Western Europe.* (Faber and Faber Ltd., London, 1957.) Pp. 381. 45/- stg.

The authors tacitly exclude Great Britain from Western Europe; conversely, they include Western Germany which throughout the period covered by this book was essentially Central European. Parts One and Two (by N.J.G.P.) cover the origins of the modern industry, technology of iron and steel, coal and coalfields in the eighteenth century, and transformation and growth in the nineteenth century in Belgium, France, Lorraine, Luxembourg and the Saar, and Germany. Part Three (by W.N.P.) discusses the growth and stabilization in the twentieth century. A useful record of facts.

ROBBINS, LIONEL. *Robert Torrens and the Evolution of Classical Economics.* (Macmillan, London, 1958.) Pp. 367. 56/6 Aust.

ROBERTSON, SIR DENNIS. *Lectures on Economic Principles. Volume II.* (Staples Press Ltd., London, 1958.) Pp. 162. 16/- stg.

SCHLOSS, H. H. *The Bank for International Settlements.* (North-Holland Publishing Co., Amsterdam, 1958.) Pp. 184. 15 guilders.

After a brief survey of international monetary co-operation before 1929, the events leading to the formation of the Bank for International Settlements and the structure and functions of the Bank are set out. A history of its operations from 1930 to 1957 is given, plus a brief evaluation suggesting that international agencies are incapable of solving any but minor problems unless more national authority is surrendered to them than is at present politically feasible.

SHACKLE, G. L. S. *Time in Economics.* (Professor De Vries Lecture, 1958.) (North-Holland Publishing Co., Amsterdam, 1958.) Pp. 111. 6.50 guilders.

Economic decisions are made by individuals in a "moment-in-time" on anticipations existing only in that moment. Only uncertainty between hypotheses balanced marginally in that moment makes decision meaningful; uncertainty statistics cannot resolve, since the instantaneous nature precludes frequency. "Man in his true humanity," concludes Shackle, "can neither predict nor be predicted."

SMITH, ADAM. *Lectures on Justice, Police, Revenue and Arms.* Edited by Edwin Cannan. (Reprints of Economic Classics, Kelley and Millman, New York, 1956.) Pp. 293. $7.50.

Smith was in a state of philosophical transition when he delivered these lectures in 1763. If they were taken down surreptitiously behind a column in the classroom, in spite of the hazards (Smith hated note-takers) the student did a good job in reflecting the clearing mists of Smith's mind which finally lifted during the writing of *The Wealth of Nations.* Justice, Police, Revenue, Arms and The Law of Nations are the main subdivisions. Cannan supplies parallel text quotations from the grand opus for comparison. Books such as this are not classics (i.e. dead)—they are part of the essential reading of the properly equipped economist. Knowing the literature is the surest way of avoiding over-confidence and wasting time in the discovery and assessment of "new" ideas.

STARK, W. *The Sociology of Knowledge.* (Routledge and Kegan Paul, London, 1958.) Pp. 356. 36/- stg.

A survey of, and a contribution to, the theory of the interdependence of ideas and the social environment of their creators. The writer's aim is to establish a branch of knowledge, a "comprehensive science of man", or "metasociology", which asserts and examines the interrelations of all social phenomena.

STRAUSS, E. *Common Sense and the Common Market.* (George Allen & Unwin, London, 1958.) Pp. 168. 15/- stg.

In a serious attempt to evaluate the Rome Treaty and explain the political forces behind it, the author is critical of its bias in favour of big business and West Germany. He also criticises the British Free Trade Area proposal. Controversial, his bold discussion is stimulating except for a somewhat irrelevant history of customs union in Germany.

THOMAS, BRINLEY (ed.). *The Economics of International Migration.* (Macmillan, London, 1958.) Pp. 502. 64/9 Aust.

UNITED NATIONS. *Industrialization and Productivity. Bulletin No. 1.* (U.N. Department of Economics and Social Affairs, New York, 1958.) Pp. 77. 5/- stg.

This is the first issue of a new publication devoted to problems of industrialization in under-developed areas. It is designed to have a practical bias in that problems will be examined in the light of the concrete situations in which they arise. Three of the articles in this issue are on the question of optimum factor proportions or capital intensity in developing industrial production.

VINER, JACOB. *The Long View and the Short. Studies in Economic Theory and Policy.* (Free Press, Glencoe, Ill., 1958.) Pp. 462. $7.50.

Professor Viner's friends adopted, as a sixty-fifth birthday *Festschrift*, a volume of his writings selected by them together with a bibliography of his work. Material primarily on international trade has been excluded, the items being classified as Economic Theory and Policy, History of Economic Thought, Scholarship and Graduate Training (one address) and Shorter Reviews. In time items range from 1921 to 1954; in scope from the famous Cost Curves article of 1931 to the review article on Keynes' *General Theory*. The emphasis is on reviews and review articles, and, in the same vein, critical commentaries on economic theory, more especially in application to public policy.

WADIA, P. A., and MERCHANT, K. T. *Our Economic Problem.* 5th ed. (Vora & Co. Publishers Private Ltd., Bombay, 1957.) Pp. 825. $4.50.

WALKER, GILBERT. *Economic Planning by Programme and Control in Great Britain.* (William Heinemann, London and Melbourne, 1957.) Pp. 175. 29/9 Aust.

After discussion of the theoretical and statistical background, Professor Walker examines Britain's economic planning both during the war and in the post-war period up to 1951 under the Labour Governments. Although the nature of the fundamental problems and the relative effectiveness of economic planning by programme and control receive a fair measure of attention, the book is primarily descriptive rather than analytical in character.

WICKSELL, KNUT. *Selected Papers on Economic Theory.* (George Allen & Unwin, London, 1958.) Pp. 292. 30/- stg.

This collection of papers provides a valuable supplement to the author's major works. Apart from the publication of articles previously not available in English, the book includes an interesting introduction by Eric Lindahl on Wicksell's Life and Work. The articles, mostly from *Ekonomisk Tidskrift*, range over the theories of Money, Production and Distribution, Capital and Foreign Trade.

ZANIEWSKI, ROMUALD. *L'Origine du Proletariat Romain et Contemporain.* (Editions Nauwelaerts, Louvain, et Beatrice-Nauwelaerts, Paris, 1957.) Pp. 398. 350 Belgian francs.

Approximately a quarter of the book is devoted to the history of the proletariat of Rome and of the Middle Ages. The major part of the work starts with the "industrial revolution". On the whole, this part is a demographic and sociological discussion. The final part of the book deals with "controverses theoriques". The point of view taken by the author (who is a Doctor of Pedagogics and a Doctor of Political and Social Sciences) in this controversy is Roman Catholic.

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